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<210> 553
<211> 58
<212> PRT
<213> Homo sapiens

<400> 553
Ser Ile Cys Asn Met Thr Cys Ala Ser Val Phe Phe Cys Asp Gln Lys
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Phe Leu Thr Phe Ser Phe Leu Ser Met Val Glu Pro Pro Arg Ala Gly
            20                  25                  30

Val Leu Asn Ser Gln Ala Thr Asp Ser Tyr Gln Ser Thr Asp Tyr Tyr
        35                  40                  45

Glu Pro His His Thr Gly Gly Gly Glu His
    50                  55
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```
<210> 554
<211> 59
<212> PRT
<213> Homo sapiens

<400> 554
Leu Gln Lys Asn Lys Leu Arg Ala Ser Thr Asp Ser Thr Leu Trp Ile
                5                   10                  15

Cys Ala Ala Glu Ala Ser Thr Lys Pro Tyr Phe Tyr Thr Cys Leu Val
            20                  25                  30

Met Leu His Gly Gln Gly Leu Ala Leu Leu Ser Pro Thr Asn Leu Pro
        35                  40                  45

Glu Ile Leu Arg Phe Leu Phe Asn Gly Phe Leu
    50                  55
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<210> 555
<211> 71
<212> PRT
<213> Homo sapiens

<400> 555
Leu Gly Arg Phe Ser Leu Ser Cys Lys Ser Gly His Ser Arg Gly Gln
                5                   10                  15

Pro Gln Leu Gly Ala Thr Ala Gln Gly Lys Val His Met Gly Leu Ser
            20                  25                  30

Thr Ala Gln Gly Ser Ile Gln Asp Ile Lys Val Pro His Ser Ile Asp
        35                  40                  45

Leu Val Ala Lys Lys Lys Gln Thr Leu Ile Ser Phe Cys His Pro
    50                  55                  60

Ser Asp Pro Leu Glu Leu Leu
65                  70
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```
<210> 556
<211> 81
<212> PRT
<213> Homo sapiens

<400> 556
Asn His Pro Glu Gln Gly Ser Ser Thr Pro Arg Pro Gln Thr His Thr
                5                   10                  15

Ser Pro Arg Thr Ile Met Asn His Thr Thr Gln Glu Glu Val Ser Thr
            20                  25                  30

Arg Gln Ala Lys Glu Ala Ser Pro Val Leu Thr Ala Thr Arg His Gly
        35                  40                  45

Ser Tyr Tyr Ser Leu Asn Ser Ala Ser Thr Gln Ile Ser Asp Asn Ile
```

```
            50                    55                    60
Arg Asn Ser Leu Glu His Glu Pro Cys Cys Glu Leu Pro Ile Arg Arg
 65                    70                    75                    80

Ile
```

```
<210> 557
<211> 54
<212> PRT
<213> Homo sapiens

<400> 557
Ser Leu Ser Ala Thr Pro Leu Thr Leu Trp Asn Ser Ser Asp Pro Leu
                  5                    10                    15

Glu Gln Ala Tyr Leu Ile Ser Ala Arg Glu Lys Thr Asn Asn Gly Leu
                  20                    25                    30

Lys Gly Ser Leu Thr Met Lys Val Ser Ala Asn Ser Trp Leu Arg Cys
              35                    40                    45

Gly Phe His Ile Arg Phe
          50
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```
<210> 558
<211> 77
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(77)
<223> Xaa = Any amino acid

<400> 558
Asn Asp Arg Asp Arg Asn Ser Asn Lys Val Ile Xaa Lys Ala Asn Leu
                  5                    10                    15

Ile Tyr Phe Thr Asn Leu Thr Ser Cys Leu Ser Val Gln Asn Gln Thr
                  20                    25                    30

Phe Thr Cys Thr Lys Arg His Lys His Leu Gln Cys Ser Ser Val His
              35                    40                    45

Leu Cys Lys Ile Pro Pro Arg Leu Lys Gly Arg Asp Lys Lys Lys Lys
          50                    55                    60

Pro Ser Tyr Leu Ser Gly Val Leu His Ser Arg Ser Tyr
 65                    70                    75
```

```
<210> 559
<211> 50
<212> PRT
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<213> Homo sapiens

<400> 559
Thr Leu Pro Pro Leu Arg Ser Val Ile Thr Leu Glu Thr His Trp Ser
                5   10   15

Thr Asn Pro Val Val Asn Cys Leu Ser Glu Gly Ser Arg Leu Cys Ala
            20   25   30

Ser Tyr Glu Asn Leu Met Pro Asp Asp Leu Ser Leu Ser His Phe Ala
        35   40   45

Pro Arg
    50

<210> 560
<211> 56
<212> PRT
<213> Homo sapiens

<400> 560
Ile Gly Ser Leu Lys Gly Pro Thr Thr Ala Gly Ser His Cys Ser Gly
                5   10   15

Glu Gly Ser Tyr Gly Thr Phe Tyr Cys Pro Arg Phe Tyr Thr Gly Tyr
            20   25   30

Lys Gly Ala Ser Gln Tyr Arg Ser Gly Ser Lys Glu Glu Glu Thr Asn
        35   40   45

Thr Asp Leu Phe Leu Pro Pro Leu
    50   55

<210> 561
<211> 57
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(57)
<223> Xaa = Any amino acid

<400> 561
Val Leu His Leu Asp Gln Met Asn Asn Val Gly Ile Xaa Met Asp Lys
                5   10   15

Gly Leu Lys Ser Pro Glu Ile Lys Asn Pro Ala Pro Thr Gly Thr Ser
            20   25   30

Asn Leu Ser Cys Phe Leu Ser Xaa Phe Trp Leu Met Gln Gly Thr Asn
        35   40   45

Ser Leu Pro Arg Glu Asn Tyr Leu Asn
    50   55

```
<210> 562
<211> 59
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(59)
<223> Xaa = Any amino acid

<400> 562
Asp Leu Tyr Pro Xaa Arg Ser Gln His Cys Ser Phe Asp Pro Ser Val
                  5                   10                  15

Ala Pro Met His Gly Ile Lys Asn Ser Ile Thr Ser Leu Ile Phe Leu
                 20                  25                  30

Ile Ser Tyr Leu Xaa Leu Glu Met Ser Ser Leu Ser Glu Ser Leu Val
             35                  40                  45

Leu Ser Ser Gly Asp Tyr Val Leu Asp Thr Pro
         50                  55


<210> 563
<211> 79
<212> PRT
<213> Homo sapiens

<400> 563
Cys Phe Leu Phe Pro Tyr Leu Trp Leu Tyr Ala Gln Pro Leu Phe Pro
                  5                   10                  15

Lys Gln Gln Pro Pro Ala Leu Ala Pro Gly His Pro Asp Phe Ile His
                 20                  25                  30

Thr Gln Asn Glu Gln Ile Asp Pro Ser Pro His Ile Gln Asn Leu Met
             35                  40                  45

Trp Asn Pro His Leu Ser Gln Glu Leu Ala Glu Thr Phe Met Val Arg
         50                  55                  60

Asp Pro Leu Arg Pro Leu Leu Val Phe Ser Leu Ala Asp Ile Arg
     65                  70                  75


<210> 564
<211> 64
<212> PRT
<213> Homo sapiens

<400> 564
Ala Cys Ser Lys Gly Ser Glu Glu Phe Gln Arg Val Arg Gly Val Ala
                  5                   10                  15

Glu Arg Asp Gln Cys Leu Phe Leu Leu Leu Cys Tyr Gln Ile Tyr Thr
                 20                  25                  30
```

```
Val Arg His Leu Tyr Ile Leu Tyr Arg Thr Leu Gly Ser Arg Lys Ser
        35                  40                  45

His Met Asn Leu Pro Leu Ser Ser Gly Ser Gln Leu Trp Leu Ala Pro
    50                  55                  60
```

<210> 565
<211> 57
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(57)
<223> Xaa = Any amino acid

<400> 565
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Leu Tyr Tyr Cys Ser Tyr Leu Cys His Phe Arg Thr Ala Leu Ile Leu
                5                  10                  15

Ala Val Cys Cys Gly Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln
            20                  25                  30

Asn Ile Asp Val Ser Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu
        35                  40                  45

Tyr Ala Val Ser Ser Xaa His Asn Val
    50                  55
```

<210> 566
<211> 55
<212> PRT
<213> Homo sapiens

<400> 566
```
Ile Leu Leu Glu Phe Phe Arg Asn Gln Arg Gly Ser Leu Asn Pro Arg
                5                  10                  15

Lys Thr Val Pro Phe Ile Lys Ser Glu Gly Gly Glu Lys Lys Gly His
            20                  25                  30

Cys Asn His Ser Val Val Ser Ile Asp Ser Ala Ala Ala Leu Leu Pro
        35                  40                  45

Leu Lys Leu Val Leu Leu Pro
    50                  55
```

<210> 567
<211> 51
<212> PRT
<213> Homo sapiens

<400> 567
```
Tyr Ser Asp Phe Asp Val Phe Cys Ser His Thr Tyr Gly Tyr Met Leu
```

```
                    5                  10                 15
Ser His Cys Ser Gln Ser Ser Ser Pro Leu Leu Trp Pro Leu Gly Ile
               20                 25                 30

Leu Thr Leu Ser Thr His Lys Met Ser Lys Leu Thr Leu Pro Pro Ile
         35                 40                 45

Phe Arg Thr
     50
```

<210> 568
<211> 75
<212> PRT
<213> Homo sapiens

<400> 568
```
Lys Val Gly Glu Tyr Ile Leu Gln Ser Leu Leu Arg Ile Arg Lys Ile
                    5                  10                 15

Tyr Val Ala Phe Asn Ser Val Pro Ser Thr Cys Leu Leu Ala Ser Leu
               20                 25                 30

Thr Glu Thr Pro Val Thr Thr Ile Leu Thr Ile Ile Ile Asn Leu Thr
         35                 40                 45

Cys Phe Gln His Ala Glu Ser Ser Tyr Leu Phe Tyr Pro Leu Ala Asp
   50                 55                 60

Phe Leu Leu Gln His Ile Ser Leu Gly Lys Leu
 65                 70                 75
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<210> 569
<211> 4809
<212> DNA
<213> Homo sapiens

<400> 569
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aaaaaaaaa                                                          4809
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<210> 570
<211> 951
<212> DNA
<213> Homo sapiens

<400> 570
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<210> 571
<211> 819
<212> DNA
<213> Homo sapiens

<400> 571
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ttaaatcatt gtactgtggt tatcatttct ctgcattat tttacccatc ttcctttgta 360
acttgtccta ttgtctttta attctgcct gttctttatg gctttcaact tcataaataa 420
catgttttct caaatctctt tgtgaattcc agagagggcc aggcacggtg gctcacatct 480
gtaatcccag cactttgggg aggctgagac gggtggatca cttgaggtca ggagtttgag 540
accagcctgg ccaacatggt gaaatcccgt ttcactaaaa atacaaaat tacccaggca 600
tggtggcggg cgcctgtaat cccagtact cgggaggctg agggaggaga tcgcttgaa 660
cctggaggc tgaggagga gaatcgcttg aacccgggag gcagaggttg cagtgaaccg 720
agatcatgtt gctgcactcc agcctggtca acagcaag actctgcctc aaaaacaaac 780
aaataaacaa acaaacaaac aaaacagaga gatttttgct                       819
```

<210> 572
<211> 203
<212> DNA
<213> Homo sapiens

<400> 572
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tatagaatac tcaagctatg catcaagctt ggtaccgagc tcggatccac tatttacggc 60
```

```
cgccagtgtg ctggaattcg cccttagctc ggatccacta gtccagtgtg gtggaattcc  120
atgtgttgg gcccaacaca atggagccac cacatccagc ctgccacata cttttaaact  180
atcaggtctc atgagaactc atg                                          203
```

<210> 573
<211> 132
<212> PRT
<213> Homo sapiens

<400> 573

```
Met Val Glu Gly Glu Gly Glu Ala Arg His Val Leu His Gly Gly Arg
                  5                  10                  15

Arg Glu Arg Val Arg Gly Glu Thr Ala Thr Asn Phe Phe Phe Leu Arg
              20                  25                  30

Gln Glu Ser Gly Pro Val Ala Gln Ala Gly Val Gln Trp His Asp Leu
          35                  40                  45

Ser Ser Leu Gln Pro Leu Pro His Arg Phe Lys Gln Phe Ser Cys Leu
      50                  55                  60

Ser Leu Pro His Ser Trp Asp His Arg Tyr Ala Pro Pro His Leu Ala
  65                  70                  75                  80

Asn Phe Cys Ser Phe Ser Arg Asp Gly Val Ser Leu Cys Cys Ser Gly
                  85                  90                  95

Trp Ser Lys Thr Pro Gly Leu Gln Gln Ser Ala Cys Leu Gly Leu Pro
                 100                 105                 110

Lys Cys Trp Gly Tyr Arg His Lys Pro Pro His Pro Ala Cys His Ile
             115                 120                 125

Leu Leu Asn Tyr
         130
```

<210> 574
<211> 62
<212> PRT
<213> Homo sapiens

<400> 574

```
Met Thr His Ser Ser Ala Trp Leu Glu Arg Pro Gln Glu Thr Tyr Asn
                  5                  10                  15

His Gly Gly Arg Arg Arg Gly Ser Lys Ala Arg Leu Thr Trp Trp Gln
              20                  25                  30

Glu Arg Thr Ser Glu Gly Gly Asp Cys His Lys Leu Phe Phe Phe Glu
          35                  40                  45

Thr Arg Val Trp Pro Cys Cys Pro Gly Trp Ser Ala Val Ala
      50                  55                  60
```

<210> 575

<211> 76
<212> PRT
<213> Homo sapiens

<400> 575
Met Val Lys Ser Arg Phe Thr Lys Asn Thr Lys Ile Thr Gln Ala Trp
                5   10   15

Trp Arg Ala Pro Val Ile Pro Gly Thr Arg Glu Ala Glu Gly Gly Glu
            20   25   30

Ser Leu Glu Pro Gly Arg Leu Arg Glu Glu Asn Arg Leu Asn Pro Gly
        35   40   45

Gly Arg Gly Cys Ser Glu Pro Arg Ser Cys Cys Cys Thr Pro Ala Trp
    50   55   60

Ser Thr Glu Gln Asp Ser Ala Ser Lys Thr Asn Lys
 65   70   75

<210> 576
<211> 68
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(68)
<223> Xaa = Any Amino Acid

<400> 576
Met Leu Gly Lys Ser Arg Ala Val Cys Leu Pro Ser Thr Thr Val Thr
                5   10   15

Thr Val Cys Tyr Leu Ala Ser Ser Ser Ala Ser Arg Glu Thr Ala Thr
            20   25   30

Arg Gln Ala Pro Gly Asn Trp Lys Met Xaa Ser Lys Cys His Ala Gln
        35   40   45

Leu Leu Phe Thr Phe Tyr Leu Asn His Phe Tyr Gln Ile Arg Leu Asn
    50   55   60

Pro Gly Tyr Ser
65

<210> 577
<211> 57
<212> PRT
<213> Homo sapiens

<400> 577
Met Tyr Leu Glu Asn Ser Phe Tyr Cys Gln Met Ile Leu Leu Lys Arg
                5   10   15

Cys Arg Leu Ser Lys Ile Ser Thr Gln Arg Val Val Pro Asp Gly Pro

```
                20                    25                    30

Pro Ala Pro Val Pro Gly Ser Phe Pro Met Phe Pro Arg Phe Gly Phe
              35                    40                    45

Arg Leu Ala Pro Pro Ala Asp Thr Pro
        50                    55


<210> 578
<211> 51
<212> PRT
<213> Homo sapiens

<400> 578
Met Gln Leu Ile Tyr Leu Cys Phe Leu Gly Leu Leu Tyr Ile Arg His
                  5                    10                    15

His Asp Ser Gln Ser Phe Val Ile Leu Tyr Tyr Lys Lys Leu Asn Tyr
                20                    25                    30

Tyr Phe Lys Tyr Gly Gln Ile Arg Ala Phe His Ile Ala Lys Val Tyr
              35                    40                    45

Gln Pro His
        50


<210> 579
<211> 56
<212> PRT
<213> Homo sapiens

<400> 579
Met His Phe Thr Phe Met Gln Leu Ile Tyr Leu Cys Phe Leu Gly Leu
                  5                    10                    15

Leu Tyr Ile Arg His His Asp Ser Gln Ser Phe Val Ile Leu Tyr Tyr
                20                    25                    30

Lys Lys Leu Asn Tyr Tyr Phe Lys Tyr Gly Gln Ile Arg Ala Phe His
              35                    40                    45

Ile Ala Lys Val Tyr Gln Pro His
        50                    55


<210> 580
<211> 67
<212> PRT
<213> Homo sapiens

<400> 580
Met Glu Leu Arg Thr Lys Ala Leu Arg Thr Ala Gln Gln Leu Thr Ser
                  5                    10                    15

Cys Val Thr Ala Leu Lys Ala Ala Gly Pro Pro Leu Thr Phe Trp Lys
              20                    25                    30
```

Gly Lys Trp Val Gln Cys Cys Leu Pro Leu Trp Gly Leu Leu Gly Ser
          35   40   45

His Ala Phe Tyr Ile Tyr Ala Val Asp Ile Phe Met Phe Pro Gly Ser
      50   55   60

Phe Ile His
  65

<210> 581
<211> 77
<212> PRT
<213> Homo sapiens

<400> 581
Met Leu Glu Val Lys Phe Glu Val Ser Leu Arg Pro Thr Gly Asn Glu
                  5   10   15

Thr Ala Gly Gln Thr His Gly Thr Gln Asp Lys Gly Ser Lys Asp Ser
          20   25   30

Thr Ala Ala Asp Ile Leu Cys Asp Ser Leu Glu Ser Ser Arg Pro Ala
          35   40   45

Ala His Ile Leu Glu Gly Lys Met Gly Thr Met Leu Ser Ala Thr Leu
      50   55   60

Gly Pro Ser Trp Val Thr Cys Ile Leu His Leu Cys Ser
  65   70   75

<210> 582
<211> 51
<212> PRT
<213> Homo sapiens

<400> 582
Met Leu Phe Leu Gln Thr Ile Asp Thr Lys Cys Thr Gly Ile Glu Ile
                  5   10   15

Asn Arg Asn Trp Ser Lys Val Trp His Thr His Ser His Val Asp Val
              20   25   30

Lys Leu Cys Leu Glu Phe Leu Cys Gly Val Trp Phe Gly Leu Gly Phe
          35   40   45

Leu Gly Val
      50

<210> 583
<211> 60
<212> PRT
<213> Homo sapiens

<400> 583

Met Ser Thr Ser Asp Gly Phe Ala Pro Pro Pro Gln Leu Gly Ser Arg
                5   10   15

Cys Ser His Ile Arg Gly Pro Ile Lys Ile Ala Arg Asn Lys Phe Pro
            20   25   30

Arg Thr Leu Thr Ser Gln Glu Leu Arg Arg Phe Ala Glu Tyr Ser Gly
            35   40   45

Met Met Phe Gly Asp Gln Thr Thr Ala Gly Gln Lys
        50   55   60

<210> 584
<211> 76
<212> PRT
<213> Homo sapiens

<400> 584
Met Cys Leu Cys Ile Pro Leu Gly Gly Tyr Gln Glu Leu Cys His Cys
                5   10   15

Met Ser Thr Ser Asp Gly Phe Ala Pro Pro Pro Gln Leu Gly Ser Arg
            20   25   30

Cys Ser His Ile Arg Gly Pro Ile Lys Ile Ala Arg Asn Lys Phe Pro
            35   40   45

Arg Thr Leu Thr Ser Gln Glu Leu Arg Arg Phe Ala Glu Tyr Ser Gly
        50   55   60

Met Met Phe Gly Asp Gln Thr Thr Ala Gly Gln Lys
    65   70   75

<210> 585
<211> 50
<212> PRT
<213> Homo sapiens

<400> 585
Met Val Tyr Arg Phe Gly Gln Met Ser Asp Asn Pro Phe Tyr Ile Leu
                5   10   15

Ala Ser Leu Gly Ser Ser Ser Cys Arg Asn Gly Leu Ala Ser Lys Trp
            20   25   30

Arg Gln Ala Asp Pro Ser Asp Gly Tyr Met Glu Pro Cys Phe Gln Leu
            35   40   45

Leu Phe
    50

<210> 586
<211> 60
<212> PRT
<213> Homo sapiens

<400> 586
Met Leu Val His Ile Tyr Ser Cys Cys Gly Met Val Tyr Arg Phe Gly
                5   10   15

Gln Met Ser Asp Asn Pro Phe Tyr Ile Leu Ala Ser Leu Gly Ser Ser
                20   25   30

Ser Cys Arg Asn Gly Leu Ala Ser Lys Trp Arg Gln Ala Asp Pro Ser
        35   40   45

Asp Gly Tyr Met Glu Pro Cys Phe Gln Leu Leu Phe
    50   55   60

<210> 587
<211> 1408
<212> DNA
<213> Homo sapiens

<400> 587
ctggacactt tgcgagggct tttgctggct gctgctgctg cccgtcatgc tactcatcgt 60
agcccgcccg gtgaagctcg ctgctttccc tacctcctta agtgactgcc aaacgcccac 120
cggctggaat tgctctggtt atgatgacag agaaaatgat ctcttcctct gtgacaccaa 180
cacctgtaaa tttgatgggg aatgtttaag aattggagac actgtgactt cgtctgtca 240
gttcaagtgc aacaatgact atgtgcctgt gtgtggctcc aatggggaga gctaccagaa 300
tgagtgttac ctgcgacagg ctgcatgcaa acagcagagt gagatacttg tggtgtcaga 360
aggatcatgt gccacagatg caggatcagg atctggagat ggagtccatg aaggctctgg 420
agaaactagt caaaaggaga catccacctg tgatatttgc cagtttggtg cagaatgtga 480
cgaagatgcc gaggatgtct ggtgtgtgtg taatattgac tgttctcaaa ccaacttcaa 540
tcccctctgc gcttctgatg ggaaatctta tgataatgca tgccaaatca agaagcatc 600
gtgtcagaaa caggagaaaa ttgaagtcat gtctttgggt cgatgtcaag ataacacaac 660
tacaactact aagtctgaag atgggcatta tgcaagaaca gattatgcag agaatgctaa 720
caaattagaa gaaagtgcca gagaacacca catacctgt ccggaacatt acaatggctt 780
ctgcatgcat gggaagtgtg agcattctat caatatgcag gagccatctt gcaggtgtga 840
tgctggttat actggacaac actgtgaaaa aaggactac agtgttctat acgttgttcc 900
cggtcctgta cgattcagt atgtcttaat cgcagctgtg attggaacaa ttcagattgc 960
tgtcatctgt gtggtggtcc tctgcatcac aaggaaatgc cccagaagca acagaattca 1020
cagacagaag caaaatacag ggcactacag ttcagacaat acaacaagag cgtccacgag 1080
gttaatctaa agggagcatg tttcacagtg gctggactac cgagagcttg gactacacaa 1140
tacagtatta tagacaaaag aataagacaa gagatctaca catgttgcct tgcatttgtg 1200
gtaatctaca ccaatgaaaa catgtactac agctatattt gattatgtat ggatatattt 1260
gaaatagtat acattgtctt gatgtttttt ctgtaatgta aataaactat ttatatcaca 1320
caatawagtt ttttcttcc catgtatttg ttatatataa taaatactca gtgatgagaa 1380
aaaaaaaaaa aaaaaaaaa rwwgaccc   1408

<210> 588
<211> 81
<212> PRT
<213> Homo sapiens

<400> 588
Met Pro Gln Lys Gln Gln Asn Ser Gln Thr Glu Ala Lys Tyr Arg Ala
                5   10   15

Leu Gln Phe Arg Gln Tyr Asn Lys Ser Val His Glu Val Asn Leu Lys
                20   25   30

Gly Ala Cys Phe Thr Val Ala Gly Leu Pro Arg Ala Trp Thr Thr Gln
         35   40   45

Tyr Ser Ile Ile Asp Lys Arg Ile Arg Gln Glu Ile Tyr Thr Cys Cys
     50   55   60

Leu Ala Phe Val Val Ile Tyr Thr Asn Glu Asn Met Tyr Tyr Ser Tyr
 65   70   75   80

Ile

<210> 589
<211> 157
<212> PRT
<213> Homo sapiens

<400> 589
Met Thr Met Cys Leu Cys Val Ala Pro Met Gly Arg Ala Thr Arg Met
                 5   10   15

Ser Val Thr Cys Asp Arg Leu His Ala Asn Ser Arg Val Arg Tyr Leu
             20   25   30

Trp Cys Gln Lys Asp His Val Pro Gln Met Gln Asp Gln Asp Leu Glu
         35   40   45

Met Glu Ser Met Lys Ala Leu Glu Lys Leu Val Lys Arg Arg His Pro
     50   55   60

Pro Val Ile Phe Ala Ser Leu Val Gln Asn Val Thr Lys Met Pro Arg
 65   70   75   80

Met Ser Gly Val Cys Val Ile Leu Thr Val Leu Lys Pro Thr Ser Ile
                 85   90   95

Pro Ser Ala Leu Leu Met Gly Asn Leu Met Ile Met His Ala Lys Ser
             100   105   110

Lys Lys His Arg Val Arg Asn Arg Arg Lys Leu Lys Ser Cys Leu Trp
         115   120   125

Val Asp Val Lys Ile Thr Gln Leu Gln Leu Leu Ser Leu Lys Met Gly
     130   135   140

Ile Met Gln Glu Gln Ile Met Gln Arg Met Leu Thr Asn
145   150   155

<210> 590
<211> 347
<212> PRT
<213> Homo sapiens

<400> 590
Met Leu Leu Ile Val Ala Arg Pro Val Lys Leu Ala Ala Phe Pro Thr
                 5   10   15

217

```
Ser Leu Ser Asp Cys Gln Thr Pro Thr Gly Trp Asn Cys Ser Gly Tyr
        20                      25                  30

Asp Asp Arg Glu Asn Asp Leu Phe Leu Cys Asp Thr Asn Thr Cys Lys
        35                  40                  45

Phe Asp Gly Glu Cys Leu Arg Ile Gly Asp Thr Val Thr Cys Val Cys
    50                  55                  60

Gln Phe Lys Cys Asn Asn Asp Tyr Val Pro Val Cys Gly Ser Asn Gly
65              70                  75                      80

Glu Ser Tyr Gln Asn Glu Cys Tyr Leu Arg Gln Ala Ala Cys Lys Gln
                85                  90                  95

Gln Ser Glu Ile Leu Val Val Ser Glu Gly Ser Cys Ala Thr Asp Ala
            100                 105                 110

Gly Ser Gly Ser Gly Asp Gly Val His Glu Gly Ser Gly Glu Thr Ser
        115                 120                 125

Gln Lys Glu Thr Ser Thr Cys Asp Ile Cys Gln Phe Gly Ala Glu Cys
    130                 135                 140

Asp Glu Asp Ala Glu Asp Val Trp Cys Val Cys Asn Ile Asp Cys Ser
145                 150                 155                 160

Gln Thr Asn Phe Asn Pro Leu Cys Ala Ser Asp Gly Lys Ser Tyr Asp
                165                 170                 175

Asn Ala Cys Gln Ile Lys Glu Ala Ser Cys Gln Lys Gln Glu Lys Ile
            180                 185                 190

Glu Val Met Ser Leu Gly Arg Cys Gln Asp Asn Thr Thr Thr Thr Thr
            195                 200                 205

Lys Ser Glu Asp Gly His Tyr Ala Arg Thr Asp Tyr Ala Glu Asn Ala
    210                 215                 220

Asn Lys Leu Glu Glu Ser Ala Arg Glu His His Ile Pro Cys Pro Glu
225                 230                 235                 240

His Tyr Asn Gly Phe Cys Met His Gly Lys Cys Glu His Ser Ile Asn
                245                 250                 255

Met Gln Glu Pro Ser Cys Arg Cys Asp Ala Gly Tyr Thr Gly Gln His
            260                 265                 270

Cys Glu Lys Lys Asp Tyr Ser Val Leu Tyr Val Val Pro Gly Pro Val
    275                 280                 285

Arg Phe Gln Tyr Val Leu Ile Ala Ala Val Ile Gly Thr Ile Gln Ile
    290                 295                 300

Ala Val Ile Cys Val Val Val Leu Cys Ile Thr Arg Lys Cys Pro Arg
305                 310                 315                 320
```

Ser Asn Arg Ile His Arg Gln Lys Gln Asn Thr Gly His Tyr Ser Ser
            325   330   335

Asp Asn Thr Thr Arg Ala Ser Thr Arg Leu Ile
            340   345

<210> 591
<211> 565
<212> DNA
<213> Homo sapien

<400> 591
actaaagcaa atgaacaagc tgacttgcta gtatcatctg cattcattga agcacaagaa   60
cttcatgcct tgactcatgt aaatgcaata ggattaaaaa ataaatttga tatcacatgg   120
aaacagacaa aaaatattgt acaacattgc acccagtgtc agattctaca cctggccact   180
caggaagcaa gagttaatcc cagaggtcta tgtcctaatg tgttatggca aatggatgtc   240
atgcacgtac cttcatttgg aaaattgtca tttgtccatg tgacagttga tacttattca   300
catttcatat gggcaacctg ccagacagga gaaagtactt cccatgttaa aagacattta   360
ttatcttgtt ttcctgtcat gggagttcca gaaaaagtta aaacagacaa tgggccaggt   420
tactgtagta aagcatttca aaaattctta aatcagtgga aaattacaca tacaatagga   480
attctctata attcccaagg acaggccata attgaaggaa ctaatagaac actcaaagct   540
caattggtta aacaaaaaaa aaaaa   565

<210> 592
<211> 188
<212> PRT
<213> Homo sapien

<400> 592
Thr Lys Ala Asn Glu Gln Ala Asp Leu Leu Val Ser Ser Ala Phe Ile
  1   5   10   15
Glu Ala Gln Glu Leu His Ala Leu Thr His Val Asn Ala Ile Gly Leu
            20   25   30
Lys Asn Lys Phe Asp Ile Thr Trp Lys Gln Thr Lys Asn Ile Val Gln
            35   40   45
His Cys Thr Gln Cys Gln Ile Leu His Leu Ala Thr Gln Glu Ala Arg
        50   55   60
Val Asn Pro Arg Gly Leu Cys Pro Asn Val Leu Trp Gln Met Asp Val
 65   70   75   80
Met His Val Pro Ser Phe Gly Lys Leu Ser Phe Val His Val Thr Val
                85   90   95
Asp Thr Tyr Ser His Phe Ile Trp Ala Thr Cys Gln Thr Gly Glu Ser
            100   105   110
Thr Ser His Val Lys Arg His Leu Leu Ser Cys Phe Pro Val Met Gly
        115   120   125
Val Pro Glu Lys Val Lys Thr Asp Asn Gly Pro Gly Tyr Cys Ser Lys
        130   135   140
Ala Phe Gln Lys Phe Leu Asn Gln Trp Lys Ile Thr His Thr Ile Gly
145   150   155   160
Ile Leu Tyr Asn Ser Gln Gly Gln Ala Ile Ile Glu Gly Thr Asn Arg
                165   170   175
Thr Leu Lys Ala Gln Leu Val Lys Gln Lys Lys Lys
            180   185

<210> 593
<211> 271

```
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(271)
<223> n = A,T,C or G

<400> 593
actttatgtt cnagtgcana aanccncctg gattgccacc ntactctcag ggctgtgant      60
tgtgcnccca nagcancctg ggcacgcggg gacaggggggg ccnacaattg agggagcggt     120
gtccctagct ggggtctata catgncnggg naagggcngc tgagtncnat nagcaaagga     180
nctagnatnt gcgggggtgc ggcctgggcc taccctttna agcatccntn gatccactcc     240
angaanccng gggtagncag gtttnccaac a                                     271

<210> 594
<211> 376
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(376)
<223> n = A,T,C or G

<400> 594
cctttggggg nggggggaac ctttaccatt gtnccccttt atttcatttg gttngggttc      60
gcgccctcnn gggccaacaa agttatcgtn nttgaagaga anattttttt ggnttngncc     120
cgattaagcg acaaatgtgt agcaaaangc cgtgccactt gtggcgtagc tncgtcgggt     180
cgattcgacg acaaggcgtn gcgcgntanc gttagtctcn aatngacccn gtggcatgag     240
cccacgangg attcgtgtcg tcacatggnc tctagacata acgcacncon ttttttncag     300
agggggntgc cgcccttagg gaggnagggg tggggacact agccaancca nantctnacc     360
ccattgaaga aaaggn                                                      376

<210> 595
<211> 242
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(242)
<223> n = A,T,C or G

<400> 595
agnctgctgn tcgtnccctn tatgtggctt catnntgagg acaaanagtng cactgaggct      60
tgngnatgcc aggcaaggnc aagctggctc aaaaagcatc cacccacctc tgnaangggt     120
atgccangag cangtgcacc agtcccaact angagnccon ggcatgntac atcttcttcc     180
accctnaaa attgngcta caangnccat ttttcttttt ctcttaaggg ncncntggct     240
tc                                                                     242

<210> 596
<211> 535
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
```

```
<222> (1)...(535)
<223> n = A,T,C or G

<400> 596
accagttgga tactgctaaa nagatattta tgcagcctca tatgttaagt cgtatatttt       60
gaaagctttt taaatttttt ctttaagaag attttagatg cttatcactg agtaccagag      120
ggatgtaggc tgatgccctt atcaacaaag tcagggactg tggcacacaa ggattgacta      180
ctgcagacac ggccacaatg ctacctctag agggcctgaa tcccctgcc ctctctggtg       240
gggagaaggg ctggcagagc cattagcatg ggctccggcc aatcctggcc actttgacac      300
tcctggtgct gacccagggt cctggaggaa gggatgaggt gggcagtaga gatgctcagg      360
gcagtggccc ctttccatcc acactggaac tatttcagta ttttaccacc aattcagcca      420
ttcccttgtg cgctggctga acatcagccc tgctccaggt ctcagtttcc cctttgtaaa      480
gggaaagctc tggattcagg gagtgatgaa gaggtcatca tggtcttgag aattc           535

<210> 597
<211> 257
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(257)
<223> n = A,T,C or G

<400> 597
tttcnatacc caaaantacc ccatattang accanacatt tgtctnggaa aaattaccat       60
tntntaacnt ttgggccacc tgagannaaa tgggtgtaat ncatgataag atggancagn      120
attnctctta agatnngatn agacccgtt tttcacggaa catatccaag nacccaatag       180
gnaacaagcc acgggnggag tcacaaacat atattcttta ctctcataat ccgtnncaca      240
naactnttgn acttgac                                                     257

<210> 598
<211> 222
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(222)
<223> n = A,T,C or G

<400> 598
nntggntacc gtcnaaactt nncttggtac ccgagctcgg atccactagt ccagtgtggt       60
ggaattccat tgtgttgggc tataagctgt aatagtggag ncgtgctngg ttcattgcan      120
nagnccctcc gcanncacnc ttgnnacaac ctgtgagnag gcnataaatt attcacataa      180
tcatcactgc atgaanctga ctcaaacgca tccacntaca cc                        222

<210> 599
<211> 238
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(238)
<223> n = A,T,C or G

<400> 599
```

```
gcatgacatc acgatgtnt ttggnaacct ganattngct aaaactngng natgccgggn      60
atgnaggttt ggtantgatc tatgcactca catctcatgg ggacgtttca tgtggagtgn     120
tcgacaangt tgctgnancn gagaagtgat gatctcagtt gaaagggtca tgtgaataca     180
cnttacactt gaaaaagaag cacattggga atatcacgaa acgnccacca acatcctg       239
```

<210> 600
<211> 232
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(232)
<223> n = A,T,C or G

<400> 600
```
cgaactattt agactaccta ggaaaattat tttagtatca gaagaatatc agggggtgtag    60
tactcatcag agctaaatga gagcgcttta aaaatgttag tttgtcttcc gccatttcta    120
cagaaagctg caatttcagg ttttcaacct aataggtgat atttaanaaa aaaaaaagc     180
aatcgcaaat agccccactg cttttacaaa tcattttttc cccaacacaa tg            232
```

<210> 601
<211> 547
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(547)
<223> n = A,T,C or G

<400> 601
```
cattgtgttg gggaaaaaat gatttgtata agcagtgggg ctatttgcga ttgctttttt     60
ttttcttaa atatcaccta ttaggttgaa aacctgaaat tgcagctttc tgtagaaatg     120
gcggaagaca aactaacatt tttaaagcgc tctcatttag ctctgatgag tactacaccc    180
ctnatattct tctgatacta aaataatttt cctagtgtag tctaaacttt tttaaaaaga    240
catgtaatcc gcggagttag taactcaaaa cgagtgcatc tnggaagtat cgcagccgtt    300
nctggatnaa attcccagct tgctngcttg ctnagccggg ggcggtnaa aaaacatct     360
gcagcccngg ggnaaaaacc ttcgcattgt tcttacgtgt ttacgttatt ttatttccct    420
nnagcaaggc nggganttgg ggactcgaaa tggtacagtt gggctgggga tcgcccttgt    480
tacataaaag ncgtccagaa gagggacggt tacaggcngg ganctccaaa ggtcagtccc    540
tgccatt                                                             547
```

<210> 602
<211> 826
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(826)
<223> n = A,T,C or G

<400> 602
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cggggggnnt tacgtctctc tggacgcttt tattgtacca gggcgatccc agcccaactg     60
taccattcga gtcctactc ctgccttgct ctagggaaat aaaataacgt aaacacgtaa    120
gaacaatgcg aaagcgtttt cttccctagg ctgcagattg tcttcttcac cgccoctgct    180
tagctagcta gctagctggg aatttaatcc agaaacggct tgcgatacct cctagatgca    240
```

```
ctcgttttga gttacaaact ccgcggatta catgtctttt taaaaaagtt tagactacac        300
tagggaaaat tattttagta tcagaagaat atcagggggt gtagtactca tcagagctna        360
atgagagcgc tttaaaaatg ttagtttgtc ttccgccatt tctacagaaa gctgcaattt        420
caggtttttca ncctaatagg tgatatntaa gaaaaaaaaa acaatcgcan atagcccact        480
gctttttacaa atcatttttc tcttctaggt atagcctgtc aggtggccta atgtattttt       540
gacatctcta ggaattttaa tagaccagaa atgggtgcca gagatatgcc tgcactaatc        600
ttaagtgggg atttatgtat ttctcaanca agtgattaaa gcaaaactag gcacgaatga        660
aatcaagatc tttaggccag aaatcatgaa nantttttana attattttan gaatctgtgg       720
cttctcttct taaaatngaa aaaaaaattg tttaaaccca naaggtctga atacccaagc        780
nccctgaacn anagaacaan gccggagcac cccctcccaa atcccc                       826
```

<210> 603
<211> 817
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(817)
<223> n = A,T,C or G

<400> 603
```
nnangacttt tgtggtntta tacaattntt ttttctattt ctatgaagag aaagccacag         60
agtcctaaaa taattctaaa actcatcatg actttcttgc ctaaaagatc ttgatttcaa        120
tcgtgcctag ttttgcttta atcacttgct tgagaaatac ataaatcccc acttaagatt        180
agtgcaggca tatctctggc acccatttct ggttctatta aaattcctag agatgtcaaa        240
aattacatta ggccacctga caggctatac ctagaagaga aaaatgatt tgtaaaagca         300
gtggggctat ttgcgattgc tttttttttt tcttaaatat cacctattag gttgaaaacc       360
tgaaattgca gcttctgta gaaatggcgg aagacaaact aacattttta aagcgctctc        420
atttagctct gatgagtact acaccctga tattcttctg atactaaaat aattttccta         480
gtgtagtcta aacttttta aaaagacctg taatccgcgg agtttgtaac tcaaaacgag        540
tgcatctagg aggtatcgca agccgtttct ggattaaatt cccagctagc ttgcttgctt       600
agcagggcg ggnaaanaag acatctgcag cctagggaag aaaacctttc gcattgttct        660
tacgtgttta cgttatttta tttcctanaa caaggcngaa ttgggactcg aatggttcag       720
ttggggtggg ggatccccctg gtncataaaa ngtcanaaag anggtacagg cggaacncca      780
aggtcgtcc tgcatttana ctcggaattt tggtgcc                                  817
```

<210> 604
<211> 694
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(694)
<223> n = A,T,C or G

<400> 604
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cttttcaaat catttttnct cttctaggta tancctgtca ggtggcctaa tgtaattttt         60
gacatctcta ngaattttaa tagaccagaa atgggtgcca gagatatgc ctgcactaat        120
cttaagtggg gatttatgta ttctcaagc aagtgattaa agcaaaacta ggcacgattg        180
aaatcaagat cttttaggca anaaagtcat gatgagtttt agaattattt taggactctg       240
tggctttctc ttcatagaaa tagaaaaaaa aattgtataa aaccacaaaa ggtcctgaat       300
agccaaagca acactganca aaaagaacan agcagggaag caacacacta ccngaattca       360
aattatacta ccagggtgta gtaaccaaaa cagcattcta ttggcataaa atagacacca       420
agaccaatgg ancagaataa agaaccccac aaataaatcc atatatntac cgccanctga       480
ttatcaataa cnaacaccaa gaacatatnt taagggacnt nctattcaat aantagtgct       540
ggnaaaaact gggaaatcca tatgcagaaa nastgaaact agacccctat ccctcaccat       600
```

```
acgcaaannt caacttcgga atgggattac aaaacttaag acattccaac ccaagaaact    660
atnaaancta ctattaagaa aacagatcnc nccc                                694
```

<210> 605
<211> 678
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(678)
<223> n = A,T,C or G

<400> 605

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taaaaatcta gactacacta ggaaattatt ttantatcag aagaatatca gggtgtagt     60
actcatcana gctaaatgag agcgctttaa aaatgttagt ttgtcttccg ccatttctac    120
agaaagctgc aatttcaggt tttcaaccta ataggtgata tttaagaaaa aaaaaaagca    180
atgcaaata gccccactgc ttttacaaat catttttct cttctaggta tagcctgtca      240
ggtggcctaa tgtaattttt gacatctcta ggaatttta tagaaccaga aatgggtgcc     300
agagatatgc ctgcactaat cttaagtggg gatttatgta tttctcaagc aagtgattaa    360
agcaaaacta ggcacgattg aaatcaanat cttttaggca agaaagtcat gatgagtttt    420
anaattattt taggactctg tggctttctc ttcatagaaa tagaaaaaaa aaattgtata    480
aaaaccacaa aaggtcctga atagcccaaa gcaacactga acaaaangaa caaagcagga    540
agcaacacac taccggaatt caattatact accaaggtgt antaaccaaa acagcattct    600
attgggcata aaatagacca aagaccagtg ggaaacagaa taaagaancc caaaataaat    660
cctatattta cngccccnc                                                678
```

<210> 606
<211> 263
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(263)
<223> n = A,T,C or G

<400> 606

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gtgggtcng cancagccaa ctcagcttcc tttcgggctt tgttagcaga cggatcatcc      60
tctagtccac tgtgntcaaa ttccattgtg tggggcccnc tcgcctcggc canagatctg    120
agtgancana cntgtcccca ctgaggtgcc ccacagcngn ttgtnttcag canggggctna   180
caactcgacc ggcagcgnan ggctggcaga antgngcgcc tnnctcattc ctacgcngtn    240
ngccgcagga aggangacag gcc                                            263
```

<210> 607
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 607

```
ccatgtgggt cccggttgtc tt                                             22
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<210> 608
<211> 22
<212> DNA

<213> Artificial Sequence

<220>
<223> Primer

<400> 608
gatagqggtg ctcaggggtt gg   22

<210> 609
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 609
gctggacagg gggcaaaagc tggggcagtg aaccatgtgc   40

<210> 610
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 610
ccttgtccag atagcccagt agctgac   27

<210> 611
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 611
gatagagaaa accgtccagg ccagtattgt gggaggctgg gagtgc   46

<210> 612
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 612
gcacatggtt cactgcccca gctttttgccc cctgtccagc   40

<210> 613
<211> 38
<212> DNA
<213> Artificial Sequence

<220>

```
<223> Primer

<400> 613
gccgctcgag ttagaattcg gggttggcca cgatggtg                              38

<210> 614
<211> 53
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 614
cggcgggcat atgcatcacc atcaccatca catcataaac ggcgaggact gca            53

<210> 615
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 615
gcactcccag cctcccacaa tactggcctg gacggttttc tctatc                   46

<210> 616
<211> 1350
<212> DNA
<213> Homo sapien

<400> 616
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tggcaggcgg cactggtcat ggaaaacgaa ttgttctgct cggggcgtcct ggtgcatccg    120
cagtgggtgc tgtcagccgc acactgtttc cagaactcct acaccatcgg gctgggcctg    180
cacagtcttg aggccgacca agagccaggg agccagatgg tggaggccag cctctccgta    240
cggcacccag agtacaacag cccttgctc gctaacgacc tcatgctcat caagttggac     300
gaatccgtgt ccgagtctga caccatccgg agcatcagca ttgcttcgca gtgccctacc    360
gcggggaact cttgcctcgt ttctggctgg ggtctgctgg cgaacggcag aatgcctacc    420
gtgctgcagt gcgtgaacgt gtcggtggtg tctgaggagg tctgcagtaa gctctatgac    480
ccgctgtacc acccagcat gttctgcgcc ggcggagggc aagaccagaa ggactcctgc    540
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gcctcaggct ggggcagcat tgaaccagag gagttcttga ccccaaagaa acttcagtgt     1140
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aagttcatgc tgtgtgctgg acgctggaca ggggcaaaa gctggggcag tgaaccatgt     1260
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gacaccatcg tggccaaccc cgaattctaa                                     1350

<210> 617
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<211> 449
<212> PRT
<213> Homo sapien

<400> 617
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1               5                   10                  15
His Ser Gln Pro Trp Gln Ala Ala Leu Val Met Glu Asn Glu Leu Phe
            20                  25                  30
Cys Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Ala His
        35                  40                  45
Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly Leu His Ser Leu Glu
        50                  55                  60
Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu Ala Ser Leu Ser Val
65                  70                  75                  80
Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala Asn Asp Leu Met Leu
                85                  90                  95
Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp Thr Ile Arg Ser Ile
            100                 105                 110
Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn Ser Cys Leu Val Ser
        115                 120                 125
Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro Thr Val Leu Gln Cys
    130                 135                 140
Val Asn Val Ser Val Val Ser Glu Glu Val Cys Ser Lys Leu Tyr Asp
145                 150                 155                 160
Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly Gly Gly Gln Asp Gln
                165                 170                 175
Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro Leu Ile Cys Asn Gly
            180                 185                 190
Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala Pro Cys Gly Gln Val
        195                 200                 205
Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys Phe Thr Glu Trp Ile
    210                 215                 220
Glu Lys Thr Val Gln Ala Ser Ile Val Gly Gly Trp Glu Cys Glu Lys
225                 230                 235                 240
His Ser Gln Pro Trp Gln Val Leu Val Ala Ser Arg Gly Arg Ala Val
                245                 250                 255
Cys Gly Gly Val Leu Val His Pro Gln Trp Val Leu Thr Ala Ala His
            260                 265                 270
Cys Ile Arg Asn Lys Ser Val Ile Leu Leu Gly Arg His Ser Leu Phe
        275                 280                 285
His Pro Glu Asp Thr Gly Gln Val Phe Gln Val Ser His Ser Phe Pro
    290                 295                 300
His Pro Leu Tyr Asp Met Ser Leu Leu Lys Asn Arg Phe Leu Arg Pro
305                 310                 315                 320
Gly Asp Asp Ser Ser His Asp Leu Met Leu Leu Arg Leu Ser Glu Pro
                325                 330                 335
Ala Glu Leu Thr Asp Ala Val Lys Val Met Asp Leu Pro Thr Gln Glu
            340                 345                 350
Pro Ala Leu Gly Thr Thr Cys Tyr Ala Ser Gly Trp Gly Ser Ile Glu
        355                 360                 365
Pro Glu Glu Phe Leu Thr Pro Lys Lys Leu Gln Cys Val Asp Leu His
    370                 375                 380
Val Ile Ser Asn Asp Val Cys Ala Gln Val His Pro Gln Lys Val Thr
385                 390                 395                 400
Lys Phe Met Leu Cys Ala Gly Arg Trp Thr Gly Gly Lys Ser Trp Gly
                405                 410                 415
Ser Glu Pro Cys Ala Leu Pro Glu Arg Pro Ser Leu Tyr Thr Lys Val
```

```
              420            425            430
Val His Tyr Arg Lys Trp Ile Lys Asp Thr Ile Val Ala Asn Pro Glu
         435            440            445
Phe
```

<210> 618
<211> 3923
<212> DNA
<213> Homo sapien

<400> 618

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acagaagaaa tagcaagtgc cgagaagctg gcatcagaaa aacagagggg agatttgtgt      60
ggctgcagcc gagggagacc aggaagatct gcatggtggg aaggacctga tgatacagag     120
gaattacaac acatatactt agtgtttcaa tgaacaccaa gataaataag tgaagagcta     180
gtccgctgtg agtctcctca gtgacacagg gctggatcac catcgacggc actttctgag     240
tactcagtgc agcaaagaaa gactacagac atctcaatgg caggggtgag aaataagaaa     300
ggctgctgac tttaccatct gaggccacac atctgctgaa atggagataa ttaacatcac     360
tagaaacagc aagatgacaa tataatgtct aagtagtgac atgttttgc acatttccag      420
cccctttaaa tatccacaca cacaggaagc acaaaaggaa gcacagagat ccctgggaga     480
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tcatttccca cttttgtgcc cattctcaag acctcaaaat gtcattccat taatatcaca    1260
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gatttttttt ccagtataaa gttaaaatgc ttagccttgt actgaggctg tatacagcac    1440
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tgttcatgga tagtccaata ataatgtta tctttgaact gatgctcata ggagagaata      2640
taagaactct gagtgatatc aacattaggg attcaaagaa atattagatt taagctcaca    2700
```

```
ctggtcaaaa ggaaccaaga tacaaagaac tctgagctgt catcgtcccc atctctgtga   2760
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aagtaaaatt taaaaaaaag tga                                           3923
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<210> 619
<211> 3674
<212> DNA
<213> Homo sapien
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<400> 619
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agccagtgaa acatattcct tcttctctcc atcaggccaa atcacggtgt tgaccttggc   180
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caacctacaa gctctctaat catgctcacc taaagattc ccggatcta ataggctcaa   1680
agaaacttct tctagaaata taaagagaa aattggatta tgcaaaaatt cattattaat   1740
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tgaggtcagt acacatttgc attttaaaat gccctgtcca gctgggcatg gtggatcatg   1920
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<210> 620
<211> 2051
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(2051)
<223> n = A,T,C or G

<400> 620
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tggatcccaa gactcagcat ccaaggtccc ctccaggaat cctggcagct cagcatactt   180
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tgcttaatga ctagaagaaa tctaggagca gcagaagag caggacaaac aggccaggcg   300
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cctttgcaca tcctaggcac agatggtaat gtagacacca cagtaagct gggcttggta   420
cctacccctc cccggattca gaaagaaacc aaacaaggag ctttgtgtgg aatgaaacct   480
cctttcctcc cagaagcact gctgactgtt tggtggttgc catttgtggc agtgagccct   540
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gaacagcaag acgtcCccag caaacatcca cagatggcct tggaaataag tcaccttcct   660
cacctgcag gaatgccagt gaacatattg ctgacatctt ggagctcagt acctcatagt   720
gtaacggcgt cagtagatct gcctgtgctg ggacttcctg tactacccat tcctgagggg   780
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caggaggtag aatggagctt gagatcaagt gtctgatcaa gcctcagtgt atgggcgctg   1020
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tttatcagga aaacagaggt aaagtgctat caattactat ttaagagttc tattttgaaa   1860
agtgagaatt aaggattttt cttttctttt taaaaaaaac tttttaaaa attaaaata   1920
aaagaagcaa aagtcttagg aaaatgaagc aagtagccct gccactctat gtacagtaat   1980
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aaaaaaaaaa a                                                         2051
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<210> 621
<211> 2841
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(2841)
<223> n = A,T,C or G

<400> 621
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ctgatcctgt tccactcac tggacaggac ctcccaactg gggctccag ctaccccac    120
cagcatccct tggccaatgg aaatttgaaa tgttcctggg acagagctcc tggagagagg    180
ggcaggccac cacctttgct gtttggggtga ctagccgttc tggcctgcag gctttggaga    240
gcccaagctg acaggggta gaagaggtgc ctcagcacag cacagccacg ctacgaaaac    300
atggccagac tcttgtttaa gtcagtcccc gaacacattt ctagtcagtg ggtgaagtct    360
ttcaaccagg gtctctggct accttgactg ctgttctctg gccgacagag gtctcaggcc    420
tccctgagtc agagctcccg gggggaggac cagattgtca tctttgctgt ttgggtgacc    480
cagccatttc agccttaggg cttcagagtg tctgaggtag ccaggggctg aagtgaaccc    540
ccagcacagc acagctgctg tataaaacg tggccagact ttttctttaa gcaagtccct    600
gttcttattc ctcctgacta ggtaagactt ctcaacttgc ctccagccac atcttattgg    660
tgtgttcaga ttggcaacag gtttgtacct cagtggtaca gagctccag aggaagggt    720
aggctatcat cttccctgga aaatacgagt caattaggga cttgagggga cccccagcat    780
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acactccact actcatcacc agacagggaa ccctggcttg ggcccacagc acagaccctc   1140
catctggggc cgattacact gagtgattgc taactcacat gtctctggga tggagcaccc   1200
aggagacaag caaagtggtg gagcagcaag tcaggtgatg tggagccag agggcaggga   1260
gagctatctc tctgggctcc acttgccctt gtgagacact ttgtccagc actccttagt   1320
ctgcttgcct ctcccaggc cccagcctgg ccacacctgc ttacaggca ctctcagatg   1380
cccataccat agtttctgtg ctagtggacc gtaccatatc agtggagagc tgcagcaagg   1440
```

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tggcccntac ggccacgcac cagcctgcac attacctctc catactgcag cccttatat     1500
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actgacagca cacaggaggg cagcacacac cccaacccac atcaactgcc attaaagaaa     1620
agaaatttca gcccataatt tcatgtccag caaaattagg catcataagt gaaggagaaa     1680
taagatcctt ttcagacaag caaatgctga gggaattcaa tatcaccaga tctaccttac     1740
aagagctcct gaaggaagca ctaaatatgg aaagaaaaaa ccatcaccag ccactacaaa     1800
aatgcagtga agaacgcagt gaattacgca gtccagtgat gctaaaaacc aaccacatac     1860
gttaagtctg caaaataacc agctgacagc atgacgacag gataaatcca cacataccat     1920
tactaacctt aaatgaaaat gggctaaatg ctcccattga aagacatggg gcaagctgga     1980
taaagaacca agaccccactg gagtatgctc tcttcaagaa acccatctca catgcggtgg     2040
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agaaataaaa aaaaaaaaaa a                                               2841
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<210> 622
<211> 3228
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(3228)
<223> n = A,T,C or G

<400> 622

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ataggggac ccaagctggc tagcgtttaa acttaagctt ggtaccgagc tcggatccac       180
tagtccagtg tggtggaatt ccattgtgtt gggcaggaaa caagcaaagt ggtggagcag      240
caagtcaggt gatgtggagc ccagaggtca gggatggctg tctctctagg gtccacttgc      300
ccttgtgaga cactttatcc cagcacttta ggaatactga ggtcatacca gccacatctt      360
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gatgctaaaa agcaagcaca tatgtaagtc tgcaaaataa ccagctgaca gcatgacgac    1140
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gataatacat acaataaccc tttgtttttc aaattgaaaa tacagtgtat tttgcaaata    3180
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<210> 623
<211> 4894
<212> DNA
<213> Homo sapiens

<400> 623
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cctttgaata agtatcactt cttagttgct ccatgcctca gtttgtccat ctgaaatgg  1140
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<210> 627
<211> 123
<212> PRT
<213> Homo sapiens

<400> 627
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Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg Ala Val
            20   25   30

Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala Thr Cys
        35   40   45

Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu Thr Gly
        50   55   60

Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala Ser Leu
65   70   75   80

Tyr His Arg Glu Lys Gln Val Leu Ile Gly Gln Trp Val Glu Ser Gly
                85   90   95

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Trp Glu Gly Trp Ser Gly Phe Leu Gly Gly Gln Leu Ala Gln Asn Leu
            100                 105                 110

Val Ser Gly Lys Gln Leu Trp Arg Met Leu Leu
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<211> 150
<212> PRT
<213> Homo sapiens

<400> 628
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Met Val Gln Arg Leu Trp Val Ser Arg Leu Leu Arg His Arg Lys Ala
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Gln Leu Leu Leu Val Asn Leu Leu Thr Phe Gly Leu Glu Val Cys Leu
            20                  25                  30

Ala Ala Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val
            35                  40                  45

Glu Glu Lys Phe Met Thr Met Val Leu Gly Glu Ser Leu His Pro Pro
        50                  55                  60

Ser Phe Leu Phe Gln Ile His Ala Thr Trp His Val Gly Gln Glu Tyr
    65                  70                  75                  80

Leu Cys Pro Gly Ser Cys Leu Glu Gly Glu Val Val Cys Trp Glu Gly
                85                  90                  95

Ile Ala Gly Gln Glu Gly Asp Pro Gly Leu Arg Gly His Thr Lys Arg
            100                 105                 110

Lys Lys Arg Ile Pro Arg Thr Tyr Pro Ser His Leu Trp Ile Pro Gly
            115                 120                 125

Pro Ala Gln Ser Leu Ala His Arg Arg His Trp Arg Asn Ala Pro Asn
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Leu Trp Leu Ala Leu Leu
145                 150
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<210> 629
<211> 371
<212> PRT
<213> Homo sapiens

<400> 629
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Met Leu Phe Pro Ser Phe Ser Arg Ser Leu Val Pro Leu Pro Leu Ala
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Leu Tyr Leu Ser Gln Pro Leu Thr His Thr Thr Ser Leu Leu Ala Gly
            20                  25                  30

Ile Gly Pro Val Leu Gly Leu Val Cys Val Pro Leu Leu Gly Ser Ala
            35                  40                  45
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Ser Asp His Trp Arg Gly Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp
    50   55   60

Ala Leu Ser Leu Gly Ile Leu Leu Ser Leu Phe Leu Ile Pro Arg Ala
    65   70   75   80

Gly Trp Leu Ala Gly Leu Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu
                85   90   95

Ala Leu Leu Ile Leu Gly Val Gly Leu Leu Asp Phe Cys Gly Gln Val
                100   105   110

Cys Phe Thr Pro Leu Glu Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro
                115   120   125

Asp His Cys Arg Gln Ala Tyr Ser Val Tyr Ala Phe Met Ile Ser Leu
    130   135   140

Gly Gly Cys Leu Gly Tyr Leu Leu Pro Ala Ile Asp Trp Asp Thr Ser
145   150   155   160

Ala Leu Ala Pro Tyr Leu Gly Thr Gln Glu Glu Cys Leu Phe Gly Leu
                165   170   175

Leu Thr Leu Ile Phe Leu Thr Cys Val Ala Ala Thr Leu Leu Val Ala
                180   185   190

Glu Glu Ala Ala Leu Gly Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala
                195   200   205

Pro Ser Leu Ser Pro His Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe
    210   215   220

Arg Asn Leu Gly Ala Leu Leu Pro Arg Leu His Gln Leu Cys Cys Arg
225   230   235   240

Met Pro Arg Thr Leu Arg Arg Leu Phe Val Ala Glu Leu Cys Ser Trp
                245   250   255

Met Ala Leu Met Thr Phe Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu
                260   265   270

Gly Leu Tyr Gln Gly Val Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg
                275   280   285

Arg His Tyr Asp Glu Gly Lys Ala Leu Ala Ala Ser Arg Gly Trp Cys
    290   295   300

Gly Ser Arg Pro Pro Glu Thr Thr Leu Gly Ala Val Ser Gly Leu Val
305   310   315   320

Pro Leu His Pro Gly Pro Asp Phe Ser Val Arg Lys Val Gly Met Asp
                325   330   335

Pro Ile Cys Ile His Gly Phe Ser Trp Val Trp Asn Ile Ser Ala Cys
                340   345   350

Gly Phe Arg Lys Ala Ser Gly Cys Ser Arg Ser Leu Ile Arg Val Val
      355   360   365

Ala Pro Val
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<210> 630
<211> 2983
<212> DNA
<213> Homo sapiens

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<210> 631
<211> 3064
<212> DNA
<213> Homo sapiens

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<211> 684
<212> PRT
<213> Homo sapiens

<400> 632

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             20                  25                 30

Ser Pro Val Phe Arg Arg Gly Gln Val Phe His Leu Arg Leu Val Leu
       35                  40                 45

Asn Gln Pro Leu Gln Ser Tyr His Gln Leu Lys Leu Glu Phe Ser Thr
    50                  55                 60

Gly Pro Asn Pro Ser Ile Ala Lys His Thr Leu Val Val Leu Asp Pro
 65                  70                 75                 80

Arg Thr Pro Ser Asp His Tyr Asn Trp Gln Ala Thr Leu Gln Asn Glu
                85                  90                 95

Ser Gly Lys Glu Val Thr Val Ala Val Thr Ser Ser Pro Asn Ala Ile
            100                 105                110

Leu Gly Lys Tyr Gln Leu Asn Val Lys Thr Gly Asn His Ile Leu Lys
        115                 120                125

Ser Glu Glu Asn Ile Leu Tyr Leu Leu Phe Asn Pro Trp Cys Lys Glu
    130                 135                140

Asp Met Val Phe Met Pro Asp Glu Asp Glu Arg Lys Glu Tyr Ile Leu
145                 150                 155                160

Asn Asp Thr Gly Cys His Tyr Val Gly Ala Ala Arg Ser Ile Lys Cys
                165                 170                175

Lys Pro Trp Asn Phe Gly Gln Phe Glu Lys Asn Val Leu Asp Cys Cys
            180                 185                190

Ile Ser Leu Leu Thr Glu Ser Ser Leu Lys Pro Thr Asp Arg Arg Asp
        195                 200                205

Pro Val Leu Val Cys Arg Ala Met Cys Ala Met Met Ser Phe Glu Lys
    210                 215                220

Gly Gln Gly Val Leu Ile Gly Asn Trp Thr Gly Asp Tyr Glu Gly Gly
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Thr Ala Pro Tyr Lys Trp Thr Gly Ser Ala Pro Ile Leu Gln Gln Tyr
            245                 250                 255

Tyr Asn Thr Lys Gln Ala Val Cys Phe Gly Gln Cys Trp Val Phe Ala
            260                 265                 270

Gly Ile Leu Thr Thr Val Leu Arg Ala Leu Gly Ile Pro Ala Arg Ser
            275                 280                 285

Val Thr Gly Phe Asp Ser Ala His Asp Thr Glu Arg Asn Leu Thr Val
            290                 295                 300

Asp Thr Tyr Val Asn Glu Asn Gly Lys Lys Ile Thr Ser Met Thr His
305                 310                 315                 320

Asp Ser Val Trp Asn Phe His Val Trp Thr Asp Ala Trp Met Lys Arg
                    325                 330                 335

Pro Asp Leu Pro Lys Gly Tyr Asp Gly Trp Gln Ala Val Asp Ala Thr
            340                 345                 350

Pro Gln Glu Arg Ser Gln Gly Val Phe Cys Cys Gly Pro Ser Pro Leu
            355                 360                 365

Thr Ala Ile Arg Lys Gly Asp Ile Phe Ile Val Tyr Asp Thr Arg Phe
    370                 375                 380

Val Phe Ser Glu Val Asn Gly Asp Arg Leu Ile Trp Leu Val Lys Met
385                 390                 395                 400

Val Asn Gly Gln Glu Glu Leu His Val Ile Ser Met Glu Thr Thr Ser
                    405                 410                 415

Ile Gly Lys Asn Ile Ser Thr Lys Ala Val Gly Gln Asp Arg Arg Arg
            420                 425                 430

Asp Ile Thr Tyr Glu Tyr Lys Tyr Pro Glu Gly Ser Ser Glu Glu Arg
            435                 440                 445

Gln Val Met Asp His Ala Phe Leu Leu Leu Ser Ser Glu Arg Glu His
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Arg Arg Pro Val Lys Glu Asn Phe Leu His Met Ser Val Gln Ser Asp
465                 470                 475                 480

Asp Val Leu Leu Gly Asn Ser Val Asn Phe Thr Val Ile Leu Lys Arg
                    485                 490                 495

Lys Thr Ala Ala Leu Gln Asn Val Asn Ile Leu Gly Ser Phe Glu Leu
            500                 505                 510

Gln Leu Tyr Thr Gly Lys Lys Met Ala Lys Leu Cys Asp Leu Asn Lys
            515                 520                 525

Thr Ser Gln Ile Gln Gly Gln Val Ser Glu Val Thr Leu Thr Leu Asp
            530                 535                 540
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Ser Lys Thr Tyr Ile Asn Ser Leu Ala Ile Leu Asp Asp Glu Pro Val
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Ile Arg Gly Phe Ile Ile Ala Glu Ile Val Glu Ser Lys Glu Ile Met
                565             570                 575
Ala Ser Glu Val Phe Thr Ser Phe Gln Tyr Pro Glu Phe Ser Ile Glu
            580             585                 590
Leu Pro Asn Thr Gly Arg Ile Gly Gln Leu Leu Val Cys Asn Cys Ile
            595             600             605
Phe Lys Asn Thr Leu Ala Ile Pro Leu Thr Asp Val Lys Phe Ser Leu
        610             615             620
Glu Ser Leu Gly Ile Ser Ser Leu Gln Thr Ser Asp His Gly Thr Val
625                 630             635                 640
Gln Pro Gly Glu Thr Ile Gln Ser Gln Ile Lys Cys Thr Pro Ile Lys
                645             650                 655
Thr Gly Pro Lys Lys Phe Ile Val Lys Leu Ser Ser Lys Gln Val Lys
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Glu Ile Asn Ala Gln Lys Ile Val Leu Ile Thr Lys
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<210> 633
<211> 679
<212> PRT
<213> Homo sapiens

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Met Met Asp Ala Ser Lys Glu Leu Gln Val Leu His Ile Asp Phe Leu
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Ser Pro Val Phe Arg Arg Gly Gln Val Phe His Leu Arg Leu Val Leu
        35              40              45
Asn Gln Pro Leu Gln Ser Tyr His Gln Leu Lys Leu Glu Phe Ser Thr
    50              55              60
Gly Pro Asn Pro Ser Ile Ala Lys His Thr Leu Val Val Leu Asp Pro
65              70              75              80
Arg Thr Pro Ser Asp His Tyr Asn Trp Gln Ala Thr Leu Gln Asn Glu
                85              90              95
Ser Gly Lys Glu Val Thr Val Ala Val Thr Ser Ser Pro Asn Ala Ile
            100             105             110
Leu Gly Lys Tyr Gln Leu Asn Val Lys Thr Gly Asn His Ile Leu Lys
            115             120             125
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Ser Glu Glu Asn Ile Leu Tyr Leu Leu Phe Asn Pro Trp Cys Lys Glu
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Asp Met Val Phe Met Pro Asp Glu Asp Glu Arg Lys Glu Tyr Ile Leu
145                 150                 155                 160

Asn Asp Thr Gly Cys His Tyr Val Gly Ala Ala Arg Ser Ile Lys Cys
            165                 170                 175

Lys Pro Trp Asn Phe Gly Gln Phe Glu Lys Asn Val Leu Asp Cys Cys
            180                 185                 190

Ile Ser Leu Leu Thr Glu Ser Ser Leu Lys Pro Thr Asp Arg Arg Asp
            195                 200                 205

Pro Val Leu Val Cys Arg Ala Met Cys Ala Met Met Ser Phe Glu Lys
    210                 215                 220

Gly Gln Gly Val Leu Ile Gly Asn Trp Thr Gly Asp Tyr Glu Gly Gly
225                 230                 235                 240

Thr Ala Pro Tyr Lys Trp Thr Gly Ser Ala Pro Ile Leu Gln Gln Tyr
            245                 250                 255

Tyr Asn Thr Lys Gln Ala Val Cys Phe Gly Gln Cys Trp Val Phe Ala
            260                 265                 270

Gly Ile Leu Thr Thr Val Leu Arg Ala Leu Gly Ile Pro Ala Arg Ser
            275                 280                 285

Val Thr Gly Phe Asp Ser Ala His Asp Thr Glu Arg Asn Leu Thr Val
    290                 295                 300

Asp Thr Tyr Val Asn Glu Asn Gly Glu Lys Ile Thr Ser Met Thr His
305                 310                 315                 320

Asp Ser Val Trp Asn Phe His Val Trp Thr Asp Ala Trp Met Lys Arg
                325                 330                 335

Pro Tyr Asp Gly Trp Gln Ala Val Asp Ala Thr Pro Gln Glu Arg Ser
            340                 345                 350

Gln Gly Val Phe Cys Cys Gly Pro Ser Pro Leu Thr Ala Ile Arg Lys
            355                 360                 365

Gly Asp Ile Phe Ile Val Tyr Asp Thr Arg Phe Val Phe Ser Glu Val
    370                 375                 380

Asn Gly Asp Arg Leu Ile Trp Leu Val Lys Met Val Asn Gly Gln Glu
385                 390                 395                 400

Glu Leu His Val Ile Ser Met Glu Thr Thr Ser Ile Gly Lys Asn Ile
                405                 410                 415

Ser Thr Lys Ala Val Gly Gln Asp Arg Arg Arg Asp Ile Thr Tyr Glu
            420                 425                 430

Tyr Lys Tyr Pro Glu Gly Ser Ser Glu Glu Arg Gln Val Met Asp His
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Ala Phe Leu Leu Leu Ser Ser Glu Arg Glu His Arg Gln Pro Val Lys
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Glu Asn Phe Leu His Met Ser Val Gln Ser Asp Asp Val Leu Leu Gly
465             470             475             480

Asn Ser Val Asn Phe Thr Val Ile Leu Lys Arg Lys Thr Ala Ala Leu
                485             490             495

Gln Asn Val Asn Ile Leu Gly Ser Phe Glu Leu Gln Leu Tyr Thr Gly
            500             505             510

Lys Lys Met Ala Lys Leu Cys Asp Leu Asn Lys Thr Ser Gln Ile Gln
        515             520             525

Gly Gln Val Ser Glu Val Thr Leu Thr Leu Asp Ser Lys Thr Tyr Ile
    530             535             540

Asn Ser Leu Ala Ile Leu Asp Asp Glu Pro Val Ile Arg Gly Phe Ile
545             550             555             560

Ile Ala Glu Ile Val Glu Ser Lys Glu Ile Met Ala Ser Glu Val Phe
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Thr Ser Asn Gln Tyr Pro Glu Phe Ser Ile Glu Leu Pro Asn Thr Gly
            580             585             590

Arg Ile Gly Gln Leu Leu Val Cys Asn Cys Ile Phe Lys Asn Thr Leu
        595             600             605

Ala Ile Pro Leu Thr Asp Val Lys Phe Ser Leu Glu Ser Leu Gly Ile
    610             615             620

Ser Ser Leu Gln Thr Ser Asp His Gly Thr Val Gln Pro Gly Glu Thr
625             630             635             640

Ile Gln Ser Gln Ile Lys Cys Thr Pro Ile Lys Thr Gly Pro Lys Lys
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Phe Ile Val Lys Leu Ser Ser Lys Gln Val Lys Glu Ile Asn Ala Gln
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Lys Ile Val Leu Ile Thr Lys
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<212> PRT
<213> Homo sapiens

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Ser Ser Ala Ser Arg Ser Thr Asp Leu Ser Tyr Ser Glu Ser Asp Leu
             20   25   30

Val Asn Phe Ile Gln Ala Asn Phe Lys Lys Arg Glu Cys Val Phe Phe
         35   40   45

Thr Lys Asp Ser Lys Ala Thr Glu Asn Val Cys Lys Cys Gly Tyr Ala
     50   55   60

Gln Ser Gln His Met Glu Gly Thr Gln Ile Asn Gln Ser Glu Lys Trp
 65   70   75   80

Asn Tyr Lys Lys His Thr Lys Glu Phe Pro Thr Asp Ala Phe Gly Asp
                 85   90   95

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Ile Gln Phe Glu Thr Leu Gly Lys Lys Gly Lys Tyr Ile Arg Leu Ser
            100                 105                 110

Cys Asp Thr Asp Ala Glu Ile Leu Tyr Glu Leu Leu Thr Gln His Trp
            115                 120                 125

His Leu Lys Thr Pro Asn Leu Val Ile Ser Val Thr Gly Gly Ala Lys
            130                 135                 140

Asn Phe Ala Leu Lys Pro Arg Met Arg Lys Ile Phe Ser Arg Leu Ile
145                 150                 155                 160

Tyr Ile Ala Gln Ser Lys Gly Ala Trp Ile Leu Thr Gly Gly Thr His
                165                 170                 175

Tyr Gly Leu Thr Lys Tyr Ile Gly Glu Val Val Arg Asp Asn Thr Ile
                180                 185                 190

Ser Arg Ser Ser Glu Glu Asn Ile Val Ala Ile Gly Ile Ala Ala Trp
            195                 200                 205

Gly Met Val Ser Asn Arg Asp Thr Leu Ile Arg Asn Cys Asp Ala Glu
    210                 215                 220

Gly Tyr Phe Leu Ala Gln Tyr Leu Met Asp Asp Phe Thr Arg Asp Pro
225                 230                 235                 240

Leu Tyr Ile Leu Asp Asn Asn His Thr His Leu Leu Leu Val Asp Asn
                245                 250                 255

Gly Cys His Gly His Pro Thr Val Glu Ala Lys Leu Arg Asn Gln Leu
                260                 265                 270

Glu Lys His Ile Ser Glu Arg Thr Ile Gln Asp Ser Asn Tyr Gly Gly
            275                 280                 285

Lys Ile Pro Ile Val Cys Phe Ala Gln Gly Gly Gly Lys Glu Thr Leu
            290                 295                 300

Lys Ala Ile Asn Thr Ser Ile Lys Asn Lys Ile Pro Cys Val Val Val
305                 310                 315                 320

Glu Gly Ser Gly Arg Ile Ala Asp Val Ile Ala Ser Leu Val Glu Val
                325                 330                 335

Glu Asp Ala Pro Thr Ser Ser Ala Val Lys Glu Lys Leu Val Arg Phe
                340                 345                 350

Leu Pro Arg Thr Val Ser Arg Leu Ser Glu Glu Glu Thr Glu Ser Trp
            355                 360                 365

Ile Lys Trp Leu Lys Glu Ile Leu Glu Cys Ser His Leu Leu Thr Val
            370                 375                 380

Ile Lys Met Glu Glu Ala Gly Asp Glu Ile Val Ser Asn Ala Ile Ser
385                 390                 395                 400
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Tyr Ala Leu Tyr Lys Ala Phe Ser Thr Ser Glu Gln Asp Lys Asp Asn
             405   410   415

Trp Asn Gly Gln Leu Lys Leu Leu Leu Glu Trp Asn Gln Leu Asp Leu
             420   425   430

Ala Asn Asp Glu Ile Phe Thr Asn Asp Arg Arg Trp Glu Ser Ala Asp
             435   440   445

Leu Gln Glu Val Met Phe Thr Ala Leu Ile Lys Asp Arg Pro Lys Phe
     450   455   460

Val Arg Leu Phe Leu Glu Asn Gly Leu Asn Leu Arg Lys Phe Leu Thr
465   470   475   480

His Asp Val Leu Thr Glu Leu Phe Ser Asn His Phe Ser Thr Leu Val
             485   490   495

Tyr Arg Asn Leu Gln Ile Ala Lys Asn Ser Tyr Asn Asp Ala Leu Leu
             500   505   510

Thr Phe Val Trp Lys Leu Val Ala Asn Phe Arg Arg Gly Phe Arg Lys
             515   520   525

Glu Asp Arg Asn Gly Arg Asp Glu Met Asp Ile Glu Leu His Asp Val
             530   535   540

Ser Pro Ile Thr Arg His Pro Leu Gln Ala Leu Phe Ile Trp Ala Ile
545   550   555   560

Leu Gln Asn Lys Lys Glu Leu Ser Lys Val Ile Trp Glu Gln Thr Arg
             565   570   575

Gly Cys Thr Leu Ala Ala Leu Gly Ala Ser Lys Leu Leu Lys Thr Leu
             580   585   590

Ala Lys Val Lys Asn Asp Ile Asn Ala Ala Gly Glu Ser Glu Glu Leu
             595   600   605

Ala Asn Glu Tyr Glu Thr Arg Ala Val Glu Leu Phe Thr Glu Cys Tyr
             610   615   620

Ser Ser Asp Glu Asp Leu Ala Glu Gln Leu Leu Val Tyr Ser Cys Glu
625   630   635   640

Ala Trp Gly Gly Ser Asn Cys Leu Glu Leu Ala Val Glu Ala Thr Asp
             645   650   655

Gln His Phe Thr Ala Gln Pro Gly Val Gln Asn Phe Leu Ser Lys Gln
             660   665   670

Trp Tyr Gly Glu Ile Ser Arg Asp Thr Lys Asn Trp Lys Ile Ile Leu
             675   680   685

Cys Leu Phe Ile Ile Pro Leu Val Gly Cys Gly Phe Val Ser Phe Arg
             690   695   700

Lys Lys Pro Val Asp Lys His Lys Lys Leu Leu Trp Tyr Tyr Val Ala

705   710   715   720

Phe Phe Thr Ser Pro Phe Val Val Phe Ser Trp Asn Val Val Phe Tyr
            725   730   735

Ile Ala Phe Leu Leu Leu Phe Ala Tyr Val Leu Leu Met Asp Phe His
            740   745   750

Ser Val Pro His Pro Pro Glu Leu Val Leu Tyr Ser Leu Val Phe Val
            755   760   765

Leu Phe Cys Asp Glu Val Arg Gln Trp Tyr Val Asn Gly Val Asn Tyr
    770   775   780

Phe Thr Asp Leu Trp Asn Val Met Asp Thr Leu Gly Leu Phe Tyr Phe
785   790   795   800

Ile Ala Gly Ile Val Phe Arg Leu His Ser Ser Asn Lys Ser Ser Leu
                805   810   815

Tyr Ser Gly Arg Val Ile Phe Cys Leu Asp Tyr Ile Ile Phe Thr Leu
            820   825   830

Arg Leu Ile His Ile Phe Thr Val Ser Arg Asn Leu Gly Pro Lys Ile
        835   840   845

Ile Met Leu Gln Arg Met Leu Ile Asp Val Phe Phe Phe Leu Phe Leu
    850   855   860

Phe Ala Val Trp Met Val Ala Phe Gly Val Ala Arg Gln Gly Ile Leu
865   870   875   880

Arg Gln Asn Glu Gln Arg Trp Arg Trp Ile Phe Arg Ser Val Ile Tyr
                885   890   895

Glu Pro Tyr Leu Ala Met Phe Gly Gln Val Pro Ser Asp Val Asp Gly
            900   905   910

Thr Thr Tyr Asp Phe Ala His Cys Thr Phe Thr Gly Asn Glu Ser Lys
            915   920   925

Pro Leu Cys Val Glu Leu Asp Glu His Asn Leu Pro Arg Phe Pro Glu
        930   935   940

Trp Ile Thr Ile Pro Leu Val Cys Ile Tyr Met Leu Ser Thr Asn Ile
945   950   955   960

Leu Leu Val Asn Leu Leu Val Ala Met Phe Gly Tyr Thr Val Gly Thr
                965   970   975

Val Gln Glu Asn Asn Asp Gln Val Trp Lys Phe Gln Arg Tyr Phe Leu
            980   985   990

Val Gln Glu Tyr Cys Ser Arg Leu Asn Ile Pro Phe Pro Phe Ile Val
        995   1000   1005

Phe Ala Tyr Phe Tyr Met Val Val Lys Lys Cys Phe Lys Cys Cys Cys
    1010   1015   1020

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Lys Glu Lys Asn Met Glu Ser Ser Val Cys Cys Phe Lys Asn Glu Asp
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Asn Glu Thr Leu Ala Trp Glu Gly Val Met Lys Glu Asn Tyr Leu Val
                1045                1050                1055

Lys Ile Asn Thr Lys Ala Asn Asp Thr Ser Glu Glu Met Arg His Arg
                1060                1065                1070

Phe Arg Gln Leu Asp Thr Lys Leu Asn Asp Leu Lys Gly Leu Leu Lys
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Glu Ile Ala Asn Lys Ile Lys
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<212> DNA
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aatgctgctg ggagtccga ggagctggct aatgagtacg agaccggc tgttgagctg 1980
ttcactgagt gttacagcag cgatgaagac ttggcagaac agctgctggt ctattcctgt 2040
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gaagcttggg gtggaagcaa ctgtctggag ctggcggtgg aggccacaga ccagcatttc 2100
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taaatcaccc tagtgtgctg agaccttgag aataaagtgt gaagggcgaa ttctgcagat 3600
atccatcaca ctggcggccg ctcgagcatg catctagag              3639
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<210> 637
<211> 1095
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(1095)
<223> Xaa = Any Amino Acid

<400> 637
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Met Arg Asn Arg Arg Asn Asp Thr Leu Asp Ser Thr Arg Thr Leu Tyr
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Ser Ser Ala Ser Arg Ser Thr Asp Leu Ser Tyr Ser Glu Ser Asp Leu
            20                  25                  30

Val Asn Phe Ile Gln Ala Asn Phe Lys Lys Arg Glu Cys Val Phe Phe
        35                  40                  45

Thr Lys Asp Ser Lys Ala Thr Glu Asn Val Cys Lys Cys Gly Tyr Ala
    50                  55                  60

Gln Ser Gln His Met Glu Gly Thr Gln Ile Asn Gln Ser Glu Lys Trp
65                  70                  75                  80

Asn Tyr Lys Lys His Thr Lys Glu Phe Pro Thr Asp Ala Phe Gly Asp
                85                  90                  95

Ile Gln Phe Glu Thr Leu Gly Lys Lys Gly Lys Tyr Ile Arg Leu Ser
```

255

                    100   105   110

Cys Asp Thr Asp Ala Glu Ile Leu Tyr Glu Leu Leu Thr Gln His Trp
        115   120   125

His Leu Lys Thr Pro Asn Leu Val Ile Ser Val Thr Gly Gly Ala Lys
    130   135   140

Asn Phe Ala Leu Lys Pro Arg Met Arg Lys Ile Phe Ser Arg Leu Ile
145   150   155   160

Tyr Ile Ala Gln Ser Lys Gly Ala Trp Ile Leu Thr Gly Gly Thr His
                165   170   175

Tyr Gly Leu Met Lys Tyr Ile Gly Glu Val Val Arg Asp Asn Thr Ile
            180   185   190

Ser Arg Ser Ser Glu Glu Asn Ile Val Ala Ile Gly Ile Ala Ala Trp
        195   200   205

Gly Met Val Ser Asn Arg Asp Thr Leu Ile Arg Asn Cys Asp Ala Glu
    210   215   220

Gly Tyr Phe Leu Ala Gln Tyr Leu Met Asp Asp Phe Thr Arg Asp Pro
225   230   235   240

Leu Tyr Ile Leu Asp Asn Asn His Thr His Leu Leu Leu Val Asp Asn
                245   250   255

Gly Cys His Gly His Pro Thr Val Glu Ala Lys Leu Arg Asn Gln Leu
            260   265   270

Glu Lys Tyr Ile Ser Glu Arg Thr Ile Gln Asp Ser Asn Tyr Gly Gly
        275   280   285

Lys Ile Pro Ile Val Cys Phe Ala Gln Gly Gly Gly Lys Glu Thr Leu
    290   295   300

Lys Ala Ile Asn Thr Ser Ile Lys Asn Lys Ile Pro Cys Val Val Val
305   310   315   320

Glu Gly Ser Gly Gln Ile Ala Asp Val Ile Ala Ser Leu Val Glu Val
                325   330   335

Glu Asp Ala Leu Thr Ser Ser Ala Val Lys Glu Lys Leu Val Arg Phe
            340   345   350

Leu Pro Arg Thr Val Ser Arg Leu Pro Glu Glu Glu Thr Glu Ser Trp
        355   360   365

Ile Lys Trp Leu Lys Glu Ile Leu Glu Cys Ser His Leu Leu Thr Val
    370   375   380

Ile Lys Met Glu Glu Ala Gly Asp Glu Ile Val Ser Asn Ala Ile Ser
385   390   395   400

Tyr Ala Leu Tyr Lys Ala Phe Ser Thr Ser Glu Gln Asp Lys Asp Asn
                405   410   415

```
Trp Asn Gly Gln Leu Lys Leu Leu Leu Glu Trp Asn Gln Leu Asp Leu
            420              425          430

Ala Asn Asp Glu Ile Phe Thr Asn Asp Arg Arg Trp Glu Ser Ala Asp
            435              440          445

Leu Gln Glu Val Met Phe Thr Ala Leu Ile Lys Asp Arg Pro Lys Phe
    450              455          460

Val Arg Leu Phe Leu Glu Asn Gly Leu Asn Leu Arg Lys Phe Leu Thr
465              470              475              480

His Asp Val Leu Thr Glu Leu Phe Ser Asn His Phe Ser Thr Leu Val
                485              490              495

Tyr Arg Asn Leu Gln Ile Ala Lys Asn Ser Tyr Asn Asp Ala Leu Leu
            500              505          510

Thr Phe Val Trp Lys Leu Val Ala Asn Phe Arg Arg Gly Phe Arg Lys
            515              520          525

Glu Asp Arg Asn Gly Arg Asp Glu Met Asp Ile Glu Leu His Asp Val
    530              535          540

Ser Pro Ile Thr Arg His Pro Leu Gln Ala Leu Phe Ile Trp Ala Ile
545              550          555              560

Leu Gln Asn Lys Lys Glu Leu Ser Lys Val Ile Trp Glu Gln Thr Arg
            565              570          575

Gly Cys Thr Leu Ala Ala Leu Gly Ala Ser Lys Leu Leu Lys Thr Leu
            580              585          590

Ala Lys Val Lys Asn Asp Ile Asn Ala Ala Gly Glu Ser Glu Glu Leu
            595              600          605

Ala Asn Glu Tyr Glu Thr Arg Ala Val Glu Leu Phe Thr Glu Cys Tyr
    610              615          620

Ser Ser Asp Glu Asp Leu Ala Glu Gln Leu Leu Val Tyr Ser Cys Glu
625              630          635              640

Ala Trp Gly Gly Ser Asn Cys Leu Glu Leu Ala Val Glu Ala Thr Asp
            645              650          655

Gln His Phe Ile Ala Gln Pro Gly Val Gln Asn Phe Leu Ser Lys Gln
            660              665          670

Trp Tyr Gly Glu Ile Ser Arg Asp Thr Lys Asn Trp Lys Ile Ile Leu
            675              680          685

Cys Leu Phe Ile Ile Pro Leu Val Gly Cys Gly Phe Val Ser Phe Arg
    690              695          700

Lys Lys Pro Val Asp Lys His Lys Lys Leu Leu Trp Tyr Tyr Val Ala
705              710          715              720
```

```
Phe Phe Thr Ser Pro Phe Val Val Phe Ser Trp Asn Val Val Phe Tyr
            725             730             735

Ile Ala Phe Leu Leu Leu Phe Ala Tyr Val Leu Leu Met Asp Phe His
            740             745             750

Ser Val Pro His Pro Pro Glu Leu Val Leu Tyr Ser Leu Val Phe Val
            755             760             765

Leu Phe Cys Asp Gln Val Arg Gln Trp Tyr Val Asn Gly Val Asn Tyr
    770             775             780

Phe Thr Asp Leu Trp Asn Val Met Asp Thr Leu Gly Leu Phe Tyr Phe
785             790             795             800

Ile Ala Gly Ile Val Phe Arg Leu His Ser Ser Asn Lys Ser Ser Leu
                805             810             815

Tyr Ser Gly Arg Val Ile Phe Cys Leu Asp Tyr Ile Ile Phe Thr Leu
            820             825             830

Arg Leu Ile His Ile Phe Thr Val Ser Arg Asn Leu Gly Pro Lys Ile
    835             840             845

Ile Met Leu Gln Arg Met Leu Ile Asp Val Phe Phe Phe Leu Phe Leu
    850             855             860

Phe Ala Xaa Trp Met Val Ala Phe Gly Val Ala Arg Gln Gly Ile Leu
865             870             875             880

Arg Gln Asn Glu Gln Arg Trp Arg Trp Ile Phe Arg Ser Val Ile Tyr
            885             890             895

Glu Pro Tyr Leu Ala Met Phe Gly Gln Val Pro Ser Asp Val Asp Gly
            900             905             910

Thr Thr Tyr Asp Phe Ala His Cys Thr Phe Thr Gly Asn Glu Ser Lys
            915             920             925

Pro Leu Cys Val Glu Leu Asp Glu His Asn Leu Pro Arg Phe Pro Glu
    930             935             940

Trp Ile Thr Ile Pro Leu Val Cys Ile Tyr Met Leu Ser Thr Asn Ile
945             950             955             960

Leu Leu Val Asn Leu Leu Val Ala Met Phe Gly Tyr Thr Val Gly Thr
                965             970             975

Val Gln Glu Asn Asn Asp Gln Val Trp Lys Phe Gln Arg Tyr Phe Leu
            980             985             990

Val Gln Glu Tyr Cys Ser Arg Leu Asn Ile Pro Phe Pro Phe Ile Val
    995             1000            1005

Phe Ala Tyr Phe Tyr Met Val Val Lys Lys Cys Phe Lys Cys Cys Cys
    1010            1015            1020

Lys Glu Lys Asn Met Glu Ser Ser Val Cys Cys Phe Lys Asn Glu Asp
```

1025   1030   1035   1040

Asn Glu Thr Leu Ala Trp Glu Gly Val Met Lys Glu Asn Tyr Leu Val
                1045   1050   1055

Lys Ile Asn Thr Lys Ala Asn Asp Thr Ser Glu Glu Met Arg His Arg
                1060   1065   1070

Phe Arg Gln Leu Asp Thr Lys Leu Asn Asp Leu Lys Gly Leu Leu Lys
            1075   1080   1085

Glu Ile Ala Asn Lys Ile Lys
        1090   1095

<210> 638
<211> 15
<212> PRT
<213> Homo sapiens

<400> 638
Arg Met Pro Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser
                5   10   15

<210> 639
<211> 45
<212> DNA
<213> Homo sapiens

<400> 639
agaatgccta ccgtgctgca gtgcgtgaac gtgtcggtgg tgtct   45

<210> 640
<211> 45
<212> DNA
<213> Homo sapiens

<400> 640
gagccaggga gccagatggt ggaggccagc ctctccgtac ggcac   45

<210> 641
<211> 45
<212> DNA
<213> Homo sapiens

<400> 641
gaggccgacc aagagccagg gagccagatg gtggaggcca gcctc   45

<210> 642
<211> 45
<212> DNA
<213> Homo sapiens

<400> 642
ggcctgcaca gtcttgaggc cgaccaagag ccagggagcc agatg   45

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<210> 643
<211> 45
<212> DNA
<213> Homo sapiens

<400> 643
tacaccatcg ggctgggcct gcacagtctt gaggccgacc aagag          45

<210> 644
<211> 42
<212> DNA
<213> Homo sapiens

<400> 644
ttccagaact cctacaccat cgggctgggc ctgcacagtc tt              42

<210> 645
<211> 45
<212> DNA
<213> Homo sapiens

<400> 645
ctgtcagccg cacactgttt ccagaactcc tacaccatcg ggctg          45

<210> 646
<211> 45
<212> DNA
<213> Homo sapiens

<400> 646
catccgcagt gggtgctgtc agccgcacac tgtttccaga actcc          45

<210> 647
<211> 45
<212> DNA
<213> Homo sapiens

<400> 647
tcgggcgtcc tggtgcatcc gcagtgggtg ctgtcagccg cacac          45

<210> 648
<211> 45
<212> DNA
<213> Homo sapiens

<400> 648
aacgaattgt tctgctcggg cgtcctggtg catccgcagt gggtg          45

<210> 649
<211> 45
<212> DNA
<213> Homo sapiens

<400> 649
gcactggtca tggaaaacga attgttctgc tcgggcgtcc tggtg          45

<210> 650
<211> 51
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<212> DNA
<213> Homo sapiens

<400> 650
tcgcagccct ggcaggcggc actggtcatg gaaaacgaat tgttctgctc g          51

<210> 651
<211> 45
<212> DNA
<213> Homo sapiens

<400> 651
atcagcattg cttcgcagtg ccctaccgcg gggaactctt gcctc                 45

<210> 652
<211> 45
<212> DNA
<213> Homo sapiens

<400> 652
tccgtgtccg agtctgacac catccggagc atcagcattg cttcg                 45

<210> 653
<211> 45
<212> DNA
<213> Homo sapiens

<400> 653
atcaagttgg acgaatccgt gtccgagtct gacaccatcc ggagc                 45

<210> 654
<211> 45
<212> DNA
<213> Homo sapiens

<400> 654
aacgacctca tgctcatcaa gttggacgaa tccgtgtccg agtct                 45

<210> 655
<211> 45
<212> DNA
<213> Homo sapiens

<400> 655
agacccttgc tcgctaacga cctcatgctc atcaagttgg acgaa                 45

<210> 656
<211> 15
<212> PRT
<213> Homo sapiens

<400> 656
Glu Pro Gly Ser Gln Met Val Glu Ala Ser Leu Ser Val Arg His
                 5                  10                  15


<210> 657
<211> 15
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<212> PRT
<213> Homo sapiens

<400> 657
Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu Ala Ser Leu
                5                   10                  15


<210> 658
<211> 15
<212> PRT
<213> Homo sapiens

<400> 658
Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met
                5                   10                  15


<210> 659
<211> 15
<212> PRT
<213> Homo sapiens

<400> 659
Tyr Thr Ile Gly Leu Gly Leu His Ser Leu Glu Ala Asp Gln Glu
                5                   10                  15


<210> 660
<211> 14
<212> PRT
<213> Homo sapiens

<400> 660
Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly Leu His Ser Leu
                5                   10


<210> 661
<211> 15
<212> PRT
<213> Homo sapiens

<400> 661
Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
                5                   10                  15


<210> 662
<211> 15
<212> PRT
<213> Homo sapiens

<400> 662
His Pro Gln Trp Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser
                5                   10                  15
```

```
<210> 663
<211> 15
<212> PRT
<213> Homo sapiens

<400> 663
Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Ala His
                5                   10                  15


<210> 664
<211> 15
<212> PRT
<213> Homo sapiens

<400> 664
Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val
                5                   10                  15


<210> 665
<211> 15
<212> PRT
<213> Homo sapiens

<400> 665
Ala Leu Val Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val
                5                   10                  15


<210> 666
<211> 17
<212> PRT
<213> Homo sapiens

<400> 666
Ser Gln Pro Trp Gln Ala Ala Leu Val Met Glu Asn Glu Leu Phe Cys
                5                   10                  15

Ser


<210> 667
<211> 15
<212> PRT
<213> Homo sapiens

<400> 667
Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn Ser Cys Leu
                5                   10                  15


<210> 668
<211> 15
<212> PRT
<213> Homo sapiens
```

```
<400> 668
Ser Val Ser Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser
                5                  10                 15


<210> 669
<211> 15
<212> PRT
<213> Homo sapiens

<400> 669
Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp Thr Ile Arg Ser
                5                  10                 15


<210> 670
<211> 15
<212> PRT
<213> Homo sapiens

<400> 670
Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
                5                  10                 15


<210> 671
<211> 15
<212> PRT
<213> Homo sapiens

<400> 671
Arg Pro Leu Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu
                5                  10                 15

<210> 672
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR primer

<400> 672
ggaccagcat atgaggaaca gaaggaatga cactc                                35


<210> 673
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR primer

<400> 673
ccgctcgagt ccaccccaag cttcacagg                                       29
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```
<210> 674
<211> 1959
<212> DNA
<213> Homo sapiens

<400> 674
atgaggaaca gaaggaatga cactctggac agcacccgga ccctgtactc cagcgcgtct  60
cggagcacag acttgtctta cagtgaaagc gacttggtga atttttattca agcaaatttt  120
aagaaacgag aatgtgtctt ctttaccaaa gattccaagg ccacggagaa tgtgtgcaag  180
tgtggctatg cccagagcca gcacatggaa ggcacccaga tcaaccaaag tgagaaatgg  240
aactacaaga aacacaccaa ggaatttcct accgacgcct tggggtatat tcagtttgag  300
acactgggga agaaagggaa gtatatacgt ctgtcctgcg acacggacgc ggaaatcctt  360
tacgagctgc tgaccagca ctggcacctg aaaacaccca acctggtcat ttctgtgacc  420
ggggcgcca agaacttcgc cctgaagccg cgcatgcgca agatcttcag cggctcatc  490
tacatcgcgc agtccaaagg tgcttggatt ctcacgggag gcacccatta tggcctgatg  540
aagtacatcg gggaggtggt gagagataac accatcagca ggagttcaga ggagaatatt  600
gtggccattg gcatagcagc ttgggcatg gtctccaacc gggacaccct catcaggat  660
tgcgatgctg agggctattt tttagccag taccttatgg atgacttcac aagagatcca  720
ctgtatatcc tggacaacaa ccacacacat ttgctgctcg tggacaatgg ctgtcatgga  780
catcccactg tcgaagcaaa ggtccggaat cagctagaga agtatatctc tgagcgcact  840
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gaaggctcgg gccagatcgc tgatgtgatc gctagctgg tggaggtgga ggatgccctg  1020
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cctgaggagg agactgagag ttggatcaaa tggctcaaag aaattctcga atgttctcac  1140
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gaccgccgat gggagtctgc tgaccttcaa gaagtcatgt ttacggctct cataaaggac  1380
agaccaagt ttgtccgcct ctttctggag aatggcttga acctacggaa gtttctcacc  1440
catgatgtcc tcactgaact cttctccaac cacttcagca cgcttgtgta ccggaatctg  1500
cagatcgcca agaattccta taatgatgcc ctcctcacgt ttgtctggaa actggttgcg  1560
aacttccgaa gaggcttccg gaaggaagac agaaatggcc gggacgagat ggacatagaa  1620
ctccacgacg tgtctcctat tactcggcac ccctgcaag ctctcttcat ctgggccatt  1680
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gcagcctgg agccagcaa gcttctgaag actctggcca agtgaagaa cgacatcaat  1800
gctgctgggg agtccgagga gctggctaat gagtacgaga ccgggctgt tgagctgttc  1860
actgagtgtt acagcagcga tgaagacttg gcagaacagc tgctggtcta ttcctgtgaa  1920
gcttggggtg gactcgagca ccaccaccac caccactga                         1959
```

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<210> 675
<211> 652
<212> PRT
<213> Homo sapiens

<400> 675
Met Arg Asn Arg Arg Asn Asp Thr Leu Asp Ser Thr Arg Thr Leu Tyr
                  5                   10                  15

Ser Ser Ala Ser Arg Ser Thr Asp Leu Ser Tyr Ser Glu Ser Asp Leu
            20                  25                  30

Val Asn Phe Ile Gln Ala Asn Phe Lys Lys Arg Glu Cys Val Phe Phe
        35                  40                  45

Thr Lys Asp Ser Lys Ala Thr Glu Asn Val Cys Lys Cys Gly Tyr Ala
    50                  55                  60
```

```
Gln Ser Gln His Met Glu Gly Thr Gln Ile Asn Gln Ser Glu Lys Trp
 65              70              75              80

Asn Tyr Lys Lys His Thr Lys Glu Phe Pro Thr Asp Ala Phe Gly Asp
            85              90              95

Ile Gln Phe Glu Thr Leu Gly Lys Lys Gly Lys Tyr Ile Arg Leu Ser
        100             105             110

Cys Asp Thr Asp Ala Glu Ile Leu Tyr Glu Leu Leu Thr Gln His Trp
        115             120             125

His Leu Lys Thr Pro Asn Leu Val Ile Ser Val Thr Gly Gly Ala Lys
    130             135             140

Asn Phe Ala Leu Lys Pro Arg Met Arg Lys Ile Phe Ser Arg Leu Ile
145             150             155             160

Tyr Ile Ala Gln Ser Lys Gly Ala Trp Ile Leu Thr Gly Gly Thr His
            165             170             175

Tyr Gly Leu Met Lys Tyr Ile Gly Glu Val Val Arg Asp Asn Thr Ile
        180             185             190

Ser Arg Ser Ser Glu Glu Asn Ile Val Ala Ile Gly Ile Ala Ala Trp
        195             200             205

Gly Met Val Ser Asn Arg Asp Thr Leu Ile Arg Asn Cys Asp Ala Glu
    210             215             220

Gly Tyr Phe Leu Ala Gln Tyr Leu Met Asp Asp Phe Thr Arg Asp Pro
225             230             235             240

Leu Tyr Ile Leu Asp Asn Asn His Thr His Leu Leu Leu Val Asp Asn
            245             250             255

Gly Cys His Gly His Pro Thr Val Glu Ala Lys Leu Arg Asn Gln Leu
            260             265             270

Glu Lys Tyr Ile Ser Glu Arg Thr Ile Gln Asp Ser Asn Tyr Gly Gly
        275             280             285

Lys Ile Pro Ile Val Cys Phe Ala Gln Gly Gly Gly Lys Glu Thr Leu
    290             295             300

Lys Ala Ile Asn Thr Ser Ile Lys Asn Lys Ile Pro Cys Val Val Val
305             310             315             320

Glu Gly Ser Gly Gln Ile Ala Asp Val Ile Ala Ser Leu Val Glu Val
            325             330             335

Glu Asp Ala Leu Thr Ser Ser Ala Val Lys Glu Lys Leu Val Arg Phe
            340             345             350

Leu Pro Arg Thr Val Ser Arg Leu Pro Glu Glu Glu Thr Glu Ser Trp
            355             360             365

Ile Lys Trp Leu Lys Glu Ile Leu Glu Cys Ser His Leu Leu Thr Val
```